Undergraduate Academic Board
Agenda

February 14, 2014
2:00-5:00
ADM 204

I. Roll
( ) Alberta Harder (FS)
( ) Soren Orley (FS)
( ) Francisco Miranda (CAS, Chair)
( ) Barbara Harville (CAS)
( ) Mari Ippolito (CAS)
( ) Len Smiley (CAS)
( ) Dave Fitzgerald (CBPP)
( ) Eileen Weatherby (COH)
( ) Irasema Ortega (COE)
( ) Vacancy (CTC)
( ) Utpal Dutta (SOE)
( ) Michael Hawfield (KPC)
( ) Sheri Denison (Mat-su)
( ) Kathryn Hollis Buchanan (Kod)
( ) Christina Stuive (ADV)
( ) Dave Fitzgerald (CBPP)
( ) Eileen Weatherby (COH)
( ) Irasema Ortega (COE)
( ) Kathryn Hollis Buchanan (Kod)
( ) Christina Stuive (ADV)

Ex-Officio Members
( ) Susan Kalina
( ) Lora Volden
( ) Scheduling and Publications

II. Approval of the Agenda (pg. 1-4)

III. Approval of Meeting Summary (pg. 5-6)

IV. Administrative Report
A. Vice Provost for Undergraduate Academic Affairs Susan Kalina
B. University Registrar Lora Volden

V. Chair’s Report
A. UAB Chair- Francisco Miranda
B. GERC

VI. Old Business

VII. New Business
A. Academic Policies regarding Occupational Endorsement Certificates (OEC) (pg. 7-8)
B. Priority Registration Exception for University Honors College (pg. 9-11)

VIII. Program/Course Action Request- Second Readings
Chg ENGL A490 Topics in English Studies (3 cr)(3+0)(pg. 12-16)
Chg Minor, English (pg. 17)
Chg BA, English (pg. 18-30)
Chg GEOL A111 Physical Geology (3 cr)(3+0)(pg. 31-34)
Add GEOL A111L Physical Geology Laboratory (1 cr)(0+3)(Pg. 35-38)
Add GEOL A121 Applied Physical Geology (4 cr)(3+3)(pg. 39-42)
Chg GEOL A221 Historical Geology (4 cr)(3+3)(pg. 43-47)
Chg GEOL A456 Geoarchaeology (Stacked with GEOL A656)(3 cr)(3+0)(pg. 48-56)
### IX. Program/Course Action Request - First Readings

**Add**

**Prefix, COHI** (pg. 83-85)

**Chg**

**HUMS A321** Diversity Issues in Human Services Practice (3 cr)(3+0)(pg. 86-90)

**Chg**

**HUMS A322** Service Coordination in Human Services Practice (3 cr)(3+0)(pg. 91-94)

**Chg**

**HUMS A333** Alternative Dispute Resolution (3 cr)(3+0)(pg. 95-99)

**Chg**

**HUMS A334** Family Mediation (3 cr)(3+0)(pg. 100-105)

**Chg**

**HUMS A350** Men and Masculinity (3 cr)(3+0)(pg. 106-109)

**Add**

**HUMS A351** Career Development for Human Services Professionals (3 cr)(3+0)(pg. 110-113)

**Add**

**HUMS A352** Human Services Administration (3 cr)(3+0)(pg. 114-117)

**Chg**

**HUMS A412** Ethical Issues in Human Services Practice (3 cr)(3+0)(pg. 118-122)

**Chg**

**HUMS A414** Advanced Case Management for Human Services (3 cr)(3+0)(pg. 123-126)

**Add**

**HUMS A415** Advanced Human Services System (3 cr)(3+0)(pg. 127-131)

**Chg**

**HUMS A416** Substance Abuse and the Older Adult (3 cr)(3+0)(pg. 132-135)

**Chg**

**HUMS A417** Substance Abuse Counseling for Human Services Professionals (3 cr)(3+0)(pg. 136-140)

**Add**

**HUMS A435** Individual and Group Facilitation (3 cr)(3+0)(pg. 141-144)

**Chg**

**HUMS A461** Crisis Intervention (3 cr)(3+0)(pg. 145-148)

**Chg**

**HUMS A495A** Human Services Practicum III (3 cr)(1+9)(pg. 149-154)

**Chg**

**HUMS A496** Human Services Capstone (GER)(3 cr)(3+0)(pg. 155-159)

**Add**

**Minor, Human Services** (pg. 160-162)

**Chg**

**Bachelor of Human Services** (pg. 163-167)

**Chg**

**Bachelor of Business Administration, Management** (pg. 168-173)

**Chg**

**Associate of Applied Science, Nursing** (pg. 174-181)
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X. Informational Items and Adjournment
I. Roll
(x) Alberta Harder (FS)                     (x) Dave Fitzgerald (CBPP)                     (x) Michael Hawfield (KPC)
(x) Soren Orley (FS)                       (x) Eileen Weatherby (COH)                    (x) Sheri Denison (Mat-su)
(x) Francisco Miranda (CAS, Chair)        (x) Irasema Ortega (COE)                      (x) Kathyrn Hollis Buchanan (Kod)
(x) Barbara Harville (CAS)                ( ) Vacancy (CTC)                             (x) Christina Stuive (ADV)
(x) Mari Ippolito (CAS)                   (x) Utpal Dutta (SOE)                          
(x) Len Smiley (CAS)                      (x) Kevin Keating (LIB)                        

Ex-Officio Members
(x) Susan Kalina                          (x) Lora Volden                                
(x) Michael Worth                          

II. Approval of the Agenda (pg. 1-2)
Approved

III. Approval of Meeting Summary (pg. 3-4)
Approved

IV. Administrative Report
A. Vice Provost for Undergraduate Academic Affairs Susan Kalina
   Report is posted to the agenda website
   Physical Therapist Assistant AAS approved by NWCCU
   Met with the eCatalog Curriculum Document subcommittee; discussed the future contents of the CCG

B. University Registrar Lora Volden
   eCatalog trainings are tentatively scheduled for the end of March

V. Chair’s Report
A. UAB Chair- Francisco Miranda

B. GERC
   Discussed a single statewide general education system

VI. Program/Course Action Request- Second Readings
Add   Minor, Speech-Language Pathology/EDSL (pg. 5-8)
Approved for second reading

VII. Program/Course Action Request- First Readings
Add   Prefix, EDSL (pg. 9)
Waive first reading, approve for second

Chg   ENGL A490   Topics in English Studies (3 cr)(3+0)(pg. 10-17)
Accepted for first reading

Del   ENGL A491   Topics in Composition and Rhetoric (1-3 cr)(1-3+0)(pg. 18-19)
Waive first reading, approve for second

January 31, 2014
2:00-5:00
ADM 204
Chg  Minor, English (pg. 20)

Chg  BA, English (pg. 21-33)

ENGL Minor and BA Accepted for first reading

Chg  PHYS A123L  Basic Physics I Laboratory (GER)(1 cr)(0+3)(pg. 34-37)
    Accepted for first reading, going to GERC

Add  PHYS A123R  Basic Physics I Problem Solving (1 cr)(0+1.5)(pg. 38-40)
    Waive first reading, approve for second

Chg  PHYS A124L  Basic Physics II Laboratory (GER)(1 cr)(0+3)(pg. 41-44)
    Accepted for first reading, going to GERC

Add  PHYS A124R  Basic Physics II Problem Solving (1 cr)(0+1.5)(pg. 45-47)
    Waive first reading, approve for second

Chg  PHYS A211   General Physics I (GER)(3 cr)(3+0)(pg. 48-52)
    Accepted for first reading, going to GERC

Chg  PHYS A211L  General Physics I Laboratory (GER)(1 cr)(0+3)(pg. 53-56)
    Accepted for first reading, going to GERC

Chg  PHYS A212   General Physics II (GER)(3 cr)(3+0)(pg. 57-61)
    Accepted for first reading, going to GERC

Chg  PHYS A212L  General Physics II Laboratory (GER)(1 cr)(0+3)(pg. 62-65)
    Accepted for first reading, going to GERC

Add  PHYS A362   Optics (4 cr)(4+0)(pg. 66-69)
    Waive first reading, approve for second

Chg  OEC, Phlebotomist (pg. 70-71)

Chg  OEC, Clinical Assistant (pg. 72)

Chg  AAS, Medical Laboratory Technology (pg. 73)

Chg  BS, Medical Laboratory Science (MEDT) (pg. 74-88)

Waive first reading, approve for second

Add  Prefix, COHI (pg. 89-91)

Postponed

VIII.  Old Business
A.  Academic Policies regarding Occupational Endorsement Certificates (OEC) (pg. 92-93)
    Postponed

IX.  New Business

X.  Informational Items and Adjournment
November 15, 2013

To: Faculty Senate Executive Board

Cc: Bruce Schultz, Vice Chancellor for Student Affairs
    Elisha “Bear” Baker, Provost
    Eric Pedersen, Associate Vice Chancellor for Enrollment Services

From: Lora Volden, University Registrar
      Susan Kalina, Vice Provost for Undergraduate Academic Affairs

Re: Academic Policies regarding Occupational Endorsement Certificates (OEC)

Issue
Since the initial creation of Occupational Endorsement Certificates in fall 2006 there have continued to be a number of questions regarding application of academic policies. Although these policies exist in the catalog, they currently apply only to traditional one and two year certificate and degree seeking students. Examples of policy questions that have arisen for OECs include:

- Should students admitted to OECs be subject to academic standing (warning, probation, Dean’s List, etc.)?
- Should students be allowed to utilize transfer work to meet requirements of OECs?
- May students/departments use academic petitions to meet OEC requirements?

Additionally, a process for awarding an OEC was developed which differs significantly from the awarding of other certificates and degrees. This process has led to confusion on the program level as well as in the Office of the Registrar and Enrollment Services.

Considerations
Although OEC students receive the same administrative services (admissions, degree audits and use of DegreeWorks, and financial aid), they do not currently pay the admission or graduation fees that other degree-seeking students pay.

Proposal
To assure consistency for all students, students admitted to an OEC should be subject to the same academic policies as other certificate and degree seeking students. Policies regarding academic standing will be updated to include OECs and students will be able to utilize academic petitions to meet OEC requirements. However, since most OECs require a small number of credits, we recommend that transcripts from other institutions are only evaluated when classes from the institution are listed on an academic petition as meeting OEC requirements. This is similar to how we handle graduate degrees and is intended to prevent over awarding of departmental electives that become problematic with federal regulations to satisfactory academic progress and also provides a more efficient work flow.
Once a student has completed all requirements for an OEC, including any necessary academic petitions, the student will submit an application for graduation (similar to all certificate and degree seeking students). The OEC will then be awarded and indicated on the student transcript and the student and department notified via email of the outcome. In keeping with current practice, the student will not be required to pay the standard $50 application for graduation fee and as such will not receive a UAA diploma or be invited to participate in the annual commencement ceremony. Departments who chose to create and award departmental completion certificates are encouraged to use the attached template after they have received confirmation from the Registrar’s Office that the OEC has been awarded.
TO: Undergraduate Academic Board (UAB)

FROM: Eric R. Pedersen, Associate Vice Chancellor for Enrollment Services

DATE: February 10, 2014

RE: Priority Registration Exception for University Honors College

On February 14, 2011, UAB voted to approve the current priority registration system that we have in place. The approval established a clear hierarchy for registration based on a student’s class standing. The current model emerged from lengthy UAB discussion and included key stakeholder input, and therefore I feel it is appropriate for UAB to determine any permanent changes to the model.

After the establishment of the priority registration policy the Honors College and Student Affairs administration agreed to a trial in which honors college student could register one business day prior to official opening of the priority registration schedule. The Honors College tightly maintains the qualifications for a student to qualify for this special priority. This trial period was granted with the expectation that a formal proposal would come before UAB and Faculty Senate for formal approval. After spring semester 2014 priority registration the Honors College was informed that their students would not be afforded this benefit for fall 2014 priority registration without expressed consent of UAB.

I have asked University Honors College leadership to bring before you a request to approve early registration for Honors College students. Enrollment Services supports early registration as a reasonable and tangible benefit for a student participating in the Honors College. The Honors College will further make the case for this benefit to their students.
February 6, 2014

To: Undergraduate Academic Board
From: Maureen O’Malley, Co-Chair, University Honors College Council
       Robert Lang, Co-Chair, University Honors College Council, Honors Faculty
Re: University Honors College Priority Registration

The University Honors College (UHC) is seeking renewed and permanent approval of priority registration for UHC academic program students. Based upon national best practices, priority registration offers an important benefit to these students in support of their success as students. Their accomplishments reflect positively on UAA as an institution committed to providing a robust and distinctive educational experience.

Background

The UHC offers smaller, in-depth seminar courses, advising, mentoring, as well as opportunities for guided individual research and community involvement. Students receive an interdisciplinary educational experience that fosters scholarship and creative innovation as strong students in Colleges throughout UAA meet their academic potential.

According to the National Collegiate Honors Council (NCHC) (2010, 2011), a critical measure of program quality is the accomplishments of its students; the accomplishments of UHC students are impressive. A recent survey of students admitted to any one of the UHC programs found that most of the students were receiving merit awards and that the majority were UA scholars (Lazell, 2011). During the five year period from AY 2008 to AY 2012, students received an array of local and international awards including prestigious scholarships such as Marshall, Fulbright, Truman, and Goldwater awards. Graduates of the Core Seminar Program are enrolled in the most competitive professional and graduate programs (Masters and Doctoral) in the nation including Harvard Law School, Johns Hopkins University, Dartmouth University, WWAMI Medical School, UCLA, and the University of Wisconsin-Madison. Academic distinction is characteristic of students admitted and completing the Core Seminar Program.

The Honors program develops leaders in their respective fields of study, who are engaged locally, nationally and globally at this critical point for UAA. UHC works with all colleges to enable students to graduate with distinction and reach their full potential. Participation in an Honors College affords a student more opportunities for research, internships, scholarships, and faculty mentoring, all of which enhance an applicant’s resume and their potential for success.
Honors students often take on greater leadership roles across the university and have additional research and service obligations. In fact, honors students tend to be more widely involved across campus than their peers in the general population. These activities add to the difficulty they often have scheduling their courses in a reasonable way.

Priority registration for an honors student cohort is a national best practice

The National Collegiate Honors Council (NCHC), deems priority registration as a basic characteristic and a best practice for Honors programs. Priority registration has in fact become so typical a policy for honors programs at universities across the nation that the National Collegiate Honors Council has added priority registration to its list of “Basic Characteristics of a Fully Developed Honors Program,” benchmarks for honors programs nationwide: “The program provides priority enrollment for active honors students in recognition of scheduling difficulties caused by the need to satisfy both honors and major program(s) requirements” (NCHC, 2010).

In their own words

The 2009 University Honors Student Advisory Board proposed priority registration to the dean of the University Honors College. Here in their own words are points that they made:

“Honors students are inclined to take challenging classes, which often require approval. Priority registration would enable us to get approved/register for these classes on time, instead of getting waitlisted.”

“The Honors College is composed of motivated and ambitious students who tend to do well in classes. We are more likely to succeed in our academic endeavors. Priority registration would greatly facilitate these endeavors, especially because we'd be able to take our classes on schedule.”

“Honors students also have full schedules. Many of us participate in sports, community service, and various extracurricular activities. Priority registration would allow us to coordinate our classes with everything else.”

Conclusion

The University Honors College academic program plays a central role in promoting an honors student’s intellectual and personal development through innovative course work and active learning. The program also enhances the reputation and reach of UAA in the state and local communities through mentored community involvement and research. Priority registration is a national best practice because it fosters student success in the honors cohort. Priority registration provides something to honors students that they understand to be invaluable to the successful completion of their degrees. Priority registration advances all of the above with essentially no cost to the university.

We request that the Undergraduate Academic Board grant priority registration for University Honors College academic program students who are in good standing.
TO: CAS Course and Curriculum, UAB, and UAA Faculty

From: Jennifer Stone, Department of English

DATE: September 20, 2013

Subject: Proposed Course and Program Changes

The Department of English is proposing two actions that will affect the catalog copy for our major and minor.

First, we are updating the CCG and CAR for ENGL A490: Topics in English Studies. This update will change the title and broaden the focus of the course to include topics from the areas of composition and rhetoric.

Second, we would like to delete ENGL A491: Topics in Composition and Rhetoric, which will be made unnecessary by the update to ENGL A490.

Additionally, we have fixed a few minor details that were missed in previous program revisions.

Please direct any questions or comments to me at jstone32@uaa.alaska.edu, 786-4373.

Attached: ENGL A490 updated CAR and CCG; ENGL A491 deletion CAR; PAR for English Major; PAR for English Minor; Catalog copy for English (track changes and clean copy)
## Proposal to Initiate, Add, Change, or Delete a Course

### 1. School or College

**AS CAS**

### 2. Course Prefix

**ENGL**

### 3. Course Number

**A490**

### 4. Previous Course Prefix & Number

n/a

### 5. Credits/CEUs

3.0

### 6. Complete Course Title

**Topics in English Studies**

### 7. Type of Course

- [x] Over-all
- [ ] Preparatory/Development
- [ ] Non-credit
- [ ] CEU
- [ ] Professional Development

### 8. Type of Action

- [x] Change

### 9. Repeat Status

- [x] Yes

### 10. Grading Basis

- [x] A-F
- [ ] P/NP
- [ ] NG

### 11. Implementation Date

**From:** Fall/2014
**To:** 9999/9999

### 12. Cross Listed with

- [ ] Stacked with

### 13a. Impacted Courses or Programs

- List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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<tbody>
<tr>
<td>1. Honors in English</td>
<td>09/20/2013</td>
<td>Daniel Kline, Department of English Chair</td>
</tr>
<tr>
<td>2. English Major</td>
<td>09/20/2013</td>
<td>Daniel Kline, Department of English Chair</td>
</tr>
<tr>
<td>3. English Minor</td>
<td>09/20/2013</td>
<td>Daniel Kline, Department of English Chair</td>
</tr>
</tbody>
</table>

### 13b. Coordination Email

- Date: 09/20/2013

### 13c. Coordination with Library Liaison

- Date: 09/20/2013

### 14. General Education Requirement

**Mark appropriate box:**

- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

### 15. Course Description

**Suggested length 20 to 50 words**

Current topics in English literature, composition, rhetoric, or linguistics. Topics will vary. Special Note: May be repeated for a maximum of nine credits with a change of subtitle.

### 16a. Course Prerequisite(s)

**ENGL A201 or ENGL A202 with minimum grade of C; and ENGL A211, ENGL A212, ENGL A213, or ENGL A214 with minimum grade of C**

### 16b. Co-requisite(s)

- **n/a**

### 16c. Other Restriction(s)

- [ ] College
- [ ] Major
- [ ] Class
- [ ] Level

### 16d. Registration Restriction(s)

- **Non-codable**

### 17. Mark if course has fees

- [x] Yes

### 18. Mark if course is a selected topic course

- [x] Yes

### 19. Justification for Action

- Revising ENGL A490 to absorb the content of ENGL A491 and deleting ENGL A491; adjusted title and description to accurately reflect course content and removed variable credit

### Initiator Name (typed)

**Jennifer Stone**

### Initiator Signed Initials

- [ ] _________

### Date

- [ ] ___________

---

### Proposal to Initiate, Add, Change, or Delete a Course

**University of Alaska Anchorage**

*Proposal to Initiate, Add, Change, or Delete a Course*

**Initiator Name (typed): Jennifer Stone**

**Initiator Signed Initials:** ________

**Date:** ___________

---

### Coordinator Contacted

- Daniel Kline, Department of English Chair

---

### Date

- [ ] ___________

---

### Disapproved

- [x] Approved

---

### Dean/Director of School/College

- [x] Disapproved

### Date

- [ ] ___________

---

### Undergraduate/Graduate Academic

- [x] Approved

### Date

- [ ] ___________

---

### Provost or Designee

- [x] Disapproved

### Date

- [ ] ___________
University of Alaska Anchorage
Course Content Guide

I. Initiation Date: September 20, 2013

II. Course Information

A. College: College of Arts and Sciences
B. Course Prefix: ENGL
C. Course Number: A490
D. Number of Credits: 3
E. Contact Time: 3 + 0
F. Course Title: Topics in English Studies
G. Grading Basis: A-F
H. Implementation Date: Fall 2014
I. Cross-listed/stacked: N/A
J. Course Description: Current topics in English literature, composition, rhetoric, or linguistics. Topics will vary. Special Note: May be repeated for a maximum of nine credits with a change of subtitle.
K. Course Prerequisites: [ENGL A201 or ENGL A202 with minimum grade of C]; and [ENGL A211, A212, ENGL A213, or ENGL A214 with minimum grade of C]
L. Course Co-requisites: N/A
M. Other Restrictions: N/A
N. Registration Restrictions: N/A
O. Status of Course: The course may fulfill a requirement for BA in English.
P. Lab Fees: Yes
Q. Coordination: English, UAA Faculty Listserv

III. Course Level Justification

As a course that deals with an in-depth consideration of a complex topic, this course is best suited to students in their junior or senior years. It is also appropriate for graduate students.
IV. Instructional Goals and Student Learning Outcomes

<table>
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<tr>
<th>Instructional Goals</th>
<th>Student Learning Outcomes</th>
<th>Assessment Methods*</th>
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<tbody>
<tr>
<td>The instructor will:</td>
<td>Students will be able to:</td>
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</table>
| Provide an overview of definitions, theoretical, and/or cultural perspectives as they relate to the course topic. | Define key concepts related to the course topic; identify and engage with theoretical and cultural perspectives on the course topic. | Reading exercises  
Classroom discussion  
Performance on quizzes |
| Introduce issues and concepts necessary to discuss the course topic. | Explain and apply concepts associated with the course topic in order to analyze issues associated with the course topic. | Reading exercises  
Classroom discussion  
Performance on quizzes  
Writing assignments |
| Address the practices and places associated with the course topic. | Identify and analyze issues and practices associated with the course topic. | Research project  
Written analysis |

*Assessment methods may vary at the discretion of the instructor.

V. Topical Course Outline (Note: for purposes of exemplification, what follows is one specific offering of this course, focused on the topic of plagiarism)

A. Definitions and Perspectives
   1. Legal and historical definitions
   2. Academic definitions
   3. Literary definitions
   4. Cultural perspectives

B. Issues and concepts
   1. Authorship
   2. Intertextuality
   3. Fair use
   4. Public domain
   5. Copyright laws

C. Practices and places
   1. The marketplace
   2. Writing centers, collaboration, and peer writing groups
3. Plagiarism detection software
4. E-cheating and self-plagiarism
5. Classroom policies

D. Perceptions
1. Public perceptions
2. Student perceptions
3. Institutional and faculty perceptions
4. Disciplinary perceptions

VI. Suggested Texts

Suggested texts will vary by topic.

VII. Bibliography

Bibliography will vary by topic.
Program/PREFIX Action Request  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Program of Study or Prefix

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17
1a. School or College  
AS CAS

1b. Department  
English

2. Complete Program Title/Prefix  
Bachelor of Arts, English/ENGL

3. Type of Program  
Choose one from the appropriate drop down menu:  
Undergraduate: or Graduate:  
Bachelor of Arts or CHOOSE ONE

This program is a Gainful Employment Program:  
[ ] Yes or [x] No

4. Type of Action:  
PROGRAM

Add  
Change  
Delete

PREFIX

Add  
Change  
Inactivate

5. Implementation Date (semester/year)  
From: Fall/2014  
To: 9999/9999

6a. Coordination with Affected Units  
Department, School, or College: English

Initiator Name (typed): Jennifer Stone  
Initiator Signed Initials:  
Date:

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Date: 09/20/2013

6c. Coordination with Library Liaison  
Date: 09/20/2013

7. Title and Program Description - Please attach the following:  
[ ] Cover Memo  
[ ] Catalog Copy in Word using the track changes function

8. Justification for Action  
Revising ENGL A490 to absorb the content of ENGL A491 and deleting ENGL A491, which has resulted in changes in catalog copy

Initiator (faculty only)  
Jennifer Stone  
Initiator (TYPE NAME)

[ ] Approved  
[ ] Disapproved  
Date  
Dean/Director of School/College  
Date

[ ] Approved  
[ ] Disapproved  
Date  
Undergraduate/Graduate Academic Board Chair  
Date

[ ] Approved  
[ ] Disapproved  
Date  
Provost or Designee  
Date
The programs offered by the Department of English provide an opportunity for a truly liberal education, one that encourages both self-discovery and an exploration of enduring ideas. The curriculum includes courses in composition, rhetoric, literature, linguistics, and critical-thinking strategies. The department also supervises the First-Year Composition Program, which fulfills the university’s General Education Requirement in written communication.

The English Department’s mission is to prepare students to succeed in an increasingly diverse world. The department is devoted to an innovative curriculum that encourages lifelong learning, critical thinking, and effective writing. We teach students to see textual work as an engagement with history, convention, culture, and place so that they can participate responsibly in changing regional and challenging global environments. In particular, the department is concerned with Alaskan cultures, the North Pacific Rim environment, and the intersection of networked technologies and forms of textuality. The English Department also strives to familiarize students with a full range of literacies – written, digital, and visual – so that they may become active and well-equipped citizens.

To address this mission, the department offers three emphases in the undergraduate major: Literature, Rhetoric and Language, and Secondary Education.

- The Literature option focuses on significant examples of literature from different places, periods, and genres as well as the social and geocultural forces that shape them.
- The Rhetoric and Language option focuses on rhetorical strategies and techniques of composition, emphasizing historical, theoretical, and linguistic perspectives.
- The Secondary Education option prepares students for teaching literature and writing at the middle and high school levels as well as for admission to UAA’s Master of Arts in Teaching program.

The department also provides minors in English and Creative Writing and Literary Arts). The minor in English with the Literature option enhances the experience of students majoring in other subjects by providing a study of significant authors and literary works as well as by developing skills in writing and critical analysis. The minor in English with the Professional Writing option prepares students to interpret and present complex information in a readable form to various audiences using a variety of media. The minor in English with the Linguistics option is designed for non-English majors who wish to build a foundation in linguistic studies for complementary majors, such as Anthropology and Languages, and for those who are interested in the study and teaching of languages. The Creative Writing and Literary Arts minor allows students to explore the crafts of fiction, literary nonfiction, poetry and dramatic writing in an intensive series of workshops taught by active writers in the genres.

For information on English placement tests, transfer credits, petition procedures, or special registration, contact the English Department.

**Bachelor of Arts, English**

**Program Student Learning Outcomes**

All options prepare majors to conduct research in the discipline and to write for a variety of purposes and audiences. In addition, each option offers the opportunity to earn honors in English. The specific student learning outcomes that support the undergraduate program objectives are to produce graduates who are able to:

- Read closely,
- Interpret texts analytically,
- Conduct research effectively,
- Weigh evidence critically, and
- Write coherently

**Admission Requirements**

Complete the Application and Admission to Baccalaureate Programs at the beginning of Chapter 7.

**Graduation Requirements**

Students must complete the following graduation requirements:

**A. General University Requirements**

Complete the General University Requirements for Baccalaureate Degrees located at the beginning of this chapter.
B. General Education Requirements

Complete the General Education Requirements for Baccalaureate Degrees listed at the beginning of this chapter.

C. College of Arts and Sciences Requirements

Complete the College of Arts and Sciences requirements listed at the beginning of the CAS section.

D. Major Requirements

Students working toward a degree in English may choose from three options: Literature, Rhetoric and Language, or Secondary Education.

1. Complete the following core courses (18 credits):
   - ENGL A201 Masterpieces of World Literature I 3
   - ENGL A202 Masterpieces of World Literature II 3
   - ENGL A351 Poetry 3
   - ENGL A433 Literacy, Rhetoric, and Social Practice 3
   - ENGL A435 History of Criticism 3
   - ENGL A476 History of English Language 3

2. Complete one of the following options:

   **Literature Option (24 credits)**

   Complete 3 credits from national literature:
   - ENGL A301 Literature of Britain I (3)
   - ENGL A302 Literature of Britain II (3)
   - ENGL A305 National Literatures in English (3)
   - ENGL A306 Literature of the United States I (3)
   - ENGL A307 Literature of the United States II (3)
   - ENGL A309 Texts of American Subcultures and Regions (3)

   Complete 3 credits from one period and 6 from the other period:
   - Earlier
     - ENGL A310 Ancient Literature (3)
     - ENGL A315 Survey of Medieval Literature (3)
     - ENGL A320 Renaissance Literature (3)
     - ENGL A325 Neoclassical Literature (3)
   - Later
     - ENGL A330 Literature of Romanticism (3)
     - ENGL A340 The Victorian Period (3)
     - ENGL A343 Modern and Contemporary Literature (3)
     - ENGL A440 Topics in Comparative Literature (3)

   Complete 3 credits from genre:
   - ENGL A361 The Novel (3)
   - ENGL A363 Short Story (3)
   - ENGL A371 Narrative Nonfiction (3)
   - ENGL A381 Drama (3)
   - ENGL A383 Film Interpretation (3)
   - ENGL A391 Genres of Subject and Theme (3)

   Complete 6 credits from specialized studies:
   - ENGL A424 Shakespeare (3)
   - and one of the following: (3)
     - ENGL A429 Major Authors (3)
     - ENGL A444 Topics in Native Literatures (3)
     - ENGL A445 Alaska Native Literatures (3)

   Complete 3 credits upper-division English or Creative
Writing and Literary Arts elective: 3

Rhetoric and Language Option (24 credits)

Complete 6 credits from nature of language:
- LING A101 The Nature of Language 3
- LING A201 Intermediate Grammar 3

Complete 6 credits from advanced composition:
- ENGL A311 Advanced Composition (3)
- ENGL A312 Advanced Technical Writing (3)
- ENGL A313 Professional Writing (3)
- ENGL A414 Research Writing (3)

Complete 3 credits from applied linguistics:
- ENGL A450 Linguistics and English Language Teaching (3)
- ENGL A487 Standard Written English (3)
- ENGL A495 Internship in Professional Writing (1-6)

Complete 3 credits from rhetoric and language theory:
- ENGL A475 Modern Grammar (3)
- ENGL A478 Public Science Writing (3)
- ENGL A490 Topics in English Studies (3)

Secondary Education Option (24 credits)

Complete 12 credits from reading and literature:
- ENGL A424 Shakespeare 3
- ENGL A361 The Novel (3)
- ENGL A363 Short Story (3)
- ENGL A371 Narrative Nonfiction (3)
- ENGL A381 Drama (3)
- ENGL A383 Film Interpretation (3)
- ENGL A391 Genres of Subject and Theme (3)
- ENGL A306 Literature of the United States I (3)
- ENGL A307 Literature of the United States II (3)
- ENGL A305 National Literatures in English (3)
- ENGL A309 Texts of American Subcultures and Regions (3)
- ENGL A343 Modern and Contemporary Literature (3)
- ENGL A440 Topics in Comparative Literature (3)
- ENGL A444 Topics in Native Literatures (3)
- ENGL A445 Alaska Native Literatures (3)

Complete 3 credits from language and composition:
- ENGL A311 Advanced Composition (3)
- ENGL A312 Advanced Technical Writing (3)
- ENGL A313 Professional Writing (3)
- ENGL A414 Research Writing (3)
- ENGL A490 Topics in English Studies (3)

Complete 9 credits from language development and analysis:
- LING A101 The Nature of Language 3
A total of 120 credits is required for the degree, of which 42 credits must be upper division.

**Honors in English**

The Department of English recognizes exceptional undergraduate students by awarding them departmental honors in English. To graduate with departmental honors, the student must be a declared English major, satisfy all requirements for a BA degree in English (Literature, Rhetoric, or Secondary Education option), and, in addition, fulfill the following:

1. Meet the requirements for Graduation with Honors as listed in Chapter 7.
2. Maintain a GPA of 3.50 in all courses in the English major.
3. Complete 6 credits of the following 400-level topics courses with a grade of A:
   - ENGL A429 Major Authors (3)
   - ENGL A440 Topics in Comparative Literature (3)
   - ENGL A444 Topics in Native Literatures (3)
   - ENGL A490 Topics in English Studies (3)
4. Complete ENGL A499 English Honors Thesis with a grade of A

The honors thesis itself is shaped by these guidelines:

1. A student wishing to undertake an English Honors Thesis should coordinate the process from the beginning with two faculty members (one considered primary, one secondary), one of whom must be a full-time tenure-track member of the English Department.
2. The secondary faculty member may be from another department with the approval of the primary faculty member. Both faculty members should be involved in the project from early in the process.
3. The student is responsible for locating the two faculty members and securing their agreement to become involved in the project.
4. The student should meet regularly (about once every couple of weeks) with the primary faculty member guiding the thesis to ensure that the project remains on track.
5. The student may well benefit from concurrent enrollment in ENGL A414 Research Writing.
6. The process should begin with a proposal of no more than 1,000 words (statement of purpose, preliminary controlling generalization, and outline) along with an annotated bibliography of about 10 items. This proposal needs to be approved by both faculty members before the student may proceed to write the honors thesis itself.
7. The anticipated length of the project is 7,500-10,000 words (exclusive of reference page[s]).
8. The final paper needs to be submitted to the two faculty members by the end of the last week of instruction of the semester during which the student is enrolled in ENGL A499.
9. The project should be undertaken in a student’s senior year.
10. Successful completion of ENGL A499 (with success defined as an A for the honors thesis ) may be used to count for 3 credits toward the 7 credit requirement of the Honors Senior Project.

**Minor, English**

The Department of English offers a minor in English with emphases in Literature, Linguistics, or Professional Writing. A total of 18 credits is required for the minor.

Students majoring in another subject who wish to minor in English must complete the following requirements.

**Linguistics Emphasis**

1. Complete these required courses (6 credits):
   - LING A101 The Nature of Language 3
   - LING A201 Intermediate Grammar 3

2. Complete 12 credits from the following:
   - ANTH A210 Introduction to Linguistic Anthropology (3)
   - ANTH A361 Language and Culture (3)
   - ENGL A450 Linguistics and English Language Teaching (3)
   - ENGL A475 Modern Grammar (3)
   - ENGL A476 History of English Language (3)
   - ENGL A487 Standard Written English (3)
   - ENGL A490 Topics in English Studies (3)
Literature Emphasis

ENGL A201  Masterpieces of World Literature I  3
ENGL A202  Masterpieces of World Literature II  3
ENGL A351  Poetry  3
ENGL A424  Shakespeare  3
ENGL A435  History of Criticism  3
Upper division English elective  3

Professional Writing Emphasis

One of the following:  3
   ENGL A212  Technical Writing (3)
   ENGL A213  Writing in the Social and
              Natural Sciences (3)
   ENGL A214  Persuasive Writing (3)
Two of the following:  6
   ENGL A311  Advanced Composition (3)
   ENGL A312  Advanced Technical Writing (3)
   ENGL A313  Professional Writing (3)
One of the following:  3
   ENGL A414  Research Writing (3)
   ENGL A495  Internship in Professional Writing (1-6)
And both of the following:
   ENGL A433  Literacy, Rhetoric, & Social Practice  3
   Upper division elective approved by the
       English Department  3

Minor, Creative Writing and Literary Arts

Students who wish to minor in Creative Writing and Literary Arts must complete the following requirements:

1. CWLA A260  Introduction to Creative Writing  3
2. One of the following:  3
   CWLA A352  Writers’ Workshop: Poetry (3)
   CWLA A362  Writers’ Workshop: Fiction (3)
   CWLA A372  Writers’ Workshop: Nonfiction (3)
   CWLA A382  Writers’ Workshop: Drama and
               Screenwriting (3)
3. One of the following:  3
   ENGL A351  Poetry (3)
   ENGL A361  The Novel (3)
   ENGL A363  Short Story (3)
   ENGL A371  Narrative Nonfiction (3)
   ENGL A381  Drama (3)
   ENGL A383  Film Interpretation (3)
4. One 300- or 400-level literature course.  3
5. One of the following:  3
   CWLA A452  Advanced Writers’ Workshop: Poetry (3)
   CWLA A462  Advanced Writers’ Workshop: Fiction (3)
   CWLA A472  Advanced Writers’ Workshop: Nonfiction (3)
   CWLA A482  Advanced Writers’ Workshop: Drama and
               Screenwriting (3)
6. One 300- or 400-level workshop (in a different genre) or one
   of the following:  3
   CWLA A259  Short Format Introduction to Creative
Writing (repeatable twice with a change in subtitle) (1-3)

CWLA A260 Introduction to Creative Writing (repeatable once) (3)

ENGL A495 Internship in Professional Writing (1-6)

7. A total of 18 credits is required for the minor.

FACULTY

Aisha Barnes, Term Instructor, aabarnes@uaa.alaska.edu
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Claudia Wallingford, Term Instructor, cswallingford@uaa.alaska.edu
Toby Widdicombe, Professor, rtwiddicombe@uaa.alaska.edu
The programs offered by the Department of English provide an opportunity for a truly liberal education, one that encourages both self-discovery and an exploration of enduring ideas. The curriculum includes courses in composition, rhetoric, literature, linguistics, and critical-thinking strategies. The department also supervises the First-Year Composition Program, which fulfills the university's General Education Requirement in written communication.

The English Department's mission is to prepare students to succeed in an increasingly diverse world. The department is devoted to an innovative curriculum that encourages lifelong learning, critical thinking, and effective writing. We teach students to see textual work as an engagement with history, convention, culture, and place so that they can participate responsibly in changing regional and challenging global environments. In particular, the department is concerned with Alaskan cultures, the North Pacific Rim environment, and the intersection of networked technologies and forms of textuality. The English Department also strives to familiarize students with a full range of literacies – written, digital, and visual – so that they may become active and well-equipped citizens.

To address this mission, the department offers three emphases in the undergraduate major: Literature, Rhetoric and Language, and Secondary Education.

- The Literature option focuses on significant examples of literature from different places, periods, and genres as well as the social and geocultural forces that shape them.
- The Rhetoric and Language option focuses on rhetorical strategies and techniques of composition, emphasizing historical, theoretical, and linguistic perspectives.
- The Secondary Education option prepares students for teaching literature and writing at the middle and high school levels as well as for admission to UAA's Master of Arts in Teaching program.

The Department also provides a variety of minors (Literature, Linguistics, Professional Writing in English and Creative Writing and Literary Arts). The minor in English with the Literature option enhances the experience of students majoring in other subjects by providing a study of significant authors and literary works as well as by developing skills in writing and critical analysis. The minor in English with the Professional Writing minor prepares students to interpret and present complex information in a readable form to various audiences using a variety of media. The minor in English with the Linguistics minor is designed for non-English majors who wish to build a foundation in linguistic studies for complementary majors, such as Anthropology and Languages, and for those who are interested in the study and teaching of languages. The Creative Writing and Literary Arts minor allows students to explore the crafts of fiction, literary nonfiction, poetry and dramatic writing in an intensive series of workshops taught by active writers in the genres.

For information on English placement tests, transfer credits, petition procedures, or special registration, contact the English Department.

**Bachelor of Arts, English**

**Program Student Learning Outcomes**

All options prepare majors to conduct research in the discipline and to write for a variety of purposes and audiences. In addition, each option offers the opportunity to earn honors in English. The specific student learning outcomes that support the undergraduate program objectives are to produce graduates who are able to:

- Read closely,
- Interpret texts analytically,
- Conduct research effectively,
- Weigh evidence critically, and
- Write coherently.

**Admission Requirements**

Complete the Baccalaureate Degree Programs: Admission Requirements Application and Admission to Baccalaureate Programs at the beginning of Chapter 7.

**Graduation Requirements**

Students must complete the following graduation requirements:
A. General University Requirements
   Complete the General University Requirements for Baccalaureate Degrees located at the beginning of this chapter.

B. General Education Requirements
   Complete the General Education Requirements for Baccalaureate Degrees listed at the beginning of this chapter.

C. College of Arts and Sciences Requirements
   Complete the College of Arts and Sciences requirements listed at the beginning of the CAS section.

D. Major Requirements
   Students working toward a degree in English may choose from three options: Literature, Rhetoric and Language, or Secondary Education.

1. Complete the following core courses (18 credits):
   - ENGL A201 Masterpieces of World Literature I 3
   - ENGL A202 Masterpieces of World Literature II 3
   - ENGL A351 Poetry 3
   - ENGL A433 Literacy, Rhetoric, and Social Practice 3
   - ENGL A435 History of Criticism 3
   - ENGL A476 History of English Language 3

2. Complete one of the following options:

   Literature Option (24 credits)
   Complete 3 credits from national literature:
   - ENGL A301 Literature of Britain I (3)
   - ENGL A302 Literature of Britain II (3)
   - ENGL A305 National Literatures in English (3)
   - ENGL A306 Literature of the United States I (3)
   - ENGL A307 Literature of the United States II (3)
   - ENGL A309 Texts of American Subcultures and Regions (3)

   Complete 3 credits from one period and 6 from the other period:
   - Earlier:
     - ENGL A310 Ancient Literature (3)
     - ENGL A315 Survey of Medieval Literature (3)
     - ENGL A320 Renaissance Literature (3)
     - ENGL A325 Neoclassical Literature (3)
   - Later:
     - ENGL A330 Literature of Romanticism (3)
     - ENGL A340 The Victorian Period (3)
     - ENGL A343 Modern and Contemporary Literature (3)
     - ENGL A440 Topics in Comparative Literature (3)

   Complete 3 credits from genre:
   - ENGL A361 The Novel (3)
   - ENGL A363 Short Story (3)
   - ENGL A371 Narrative Nonfiction (3)
   - ENGL A381 Drama (3)
   - ENGL A383 Film Interpretation (3)
   - ENGL A391 Genres of Subject and Theme (3)

   Complete 6 credits from specialized studies:
   - ENGL A424 Shakespeare (3)
   - and one of the following: (3)
   - ENGL A429 Major Authors (3)
ENGL A444  Topics in Native Literatures (3)
ENGL A445  Alaska Native Literatures (3)

Complete 3 credits upper-division English or Creative Writing and Literary Arts elective: 3

Rhetoric and Language Option (24 credits)

Complete 6 credits from nature of language:
- LING A101  The Nature of Language  3
- LING A201  Intermediate Grammar  3

Complete 6 credits from advanced composition:
- ENGL A311  Advanced Composition (3)
- ENGL A312  Advanced Technical Writing (3)
- ENGL A313  Professional Writing (3)
- ENGL A414  Research Writing (3)

Complete 3 credits from applied linguistics: 3
- ENGL A450  Linguistics and English Language Teaching (3)
- ENGL A487  Standard Written English (3)
- ENGL A495  Internship in Professional Writing (1-6)

Complete 3 credits from rhetoric and language theory: 3
- ENGL A475  Modern Grammar (3)
- ENGL A478  Public Science Writing (3)
- ENGL A490  Topics in English Studies: Topics in Composition and Rhetoric (3)

Complete 6 credits upper-division English or Creative Writing and Literary Arts electives: 6

Secondary Education Option (24 credits)

Complete 12 credits from reading and literature:
- ENGL A424  Shakespeare  3
- ENGL A361  The Novel  3
- ENGL A363  Short Story  3
- ENGL A371  Narrative Nonfiction  3
- ENGL A381  Drama  3
- ENGL A383  Film Interpretation  3
- ENGL A391  Genres of Subject and Theme  3
- ENGL A306  Literature of the United States I  3
- ENGL A307  Literature of the United States II  3
- ENGL A309  Texts of American Subcultures and Regions  3
- ENGL A343  Modern and Contemporary Literature  3
- ENGL A440  Topics in Comparative Literature  3
- ENGL A444  Topics in Native Literatures  3
- ENGL A445  Alaska Native Literatures  3

Complete 3 credits from language and composition: 3
ENGL A311  Advanced Composition (3)
ENGL A312  Advanced Technical Writing (3)
ENGL A313  Professional Writing (3)
ENGL A414  Research Writing (3)
ENGL A490A491A Topics in English Studies Topics in Composition and Rhetoric (3)

Complete 9 credits from language development and analysis:
LING A101  The Nature of Language  3
LING A201  Intermediate Grammar  3
ENGL A450  Linguistics and English Language Teaching  3

A total of 120 credits is required for the degree, of which 42 credits must be upper division.

Honors in English
The Department of English recognizes exceptional undergraduate students by awarding them departmental honors in English. To graduate with departmental honors, the student must be a declared English major, satisfy all requirements for a BA degree in English (Literature, Rhetoric, or Secondary Education option), and, in addition, fulfill the following:
1. Meet the requirements for Graduation with Honors as listed in Chapter 7.
2. Maintain a GPA of 3.50 in all courses in the English major.
3. Complete 6 credits of the following 400-level topics courses with a grade of A:
   ENGL A429  Major Authors (3)
   ENGL A440  Topics in Comparative Literature (3)
   ENGL A444  Topics in Native Literatures (3)
   ENGL A490  Topics in Language and Literature Topics in English Studies (1-3)
   ENGL A491  Topics in Composition and Rhetoric (3)
4. Successfully complete ENGL A499 (with success defined as an English Honors Thesis with a grade of A for the honors thesis).

The honors thesis itself is shaped by these guidelines:
1. A student wishing to undertake an English Honors Thesis should coordinate the process from the beginning with two faculty members (one considered primary, one secondary), one of whom must be a full-time tenure-track member of the English Department.
2. The secondary faculty member may be from another department with the approval of the primary faculty member. Both faculty members should be involved in the project from early in the process.
3. The student is responsible for locating the two faculty members and securing their agreement to become involved in the project.
4. The student should meet regularly (about once every couple of weeks) with the primary faculty member guiding the thesis to ensure that the project remains on track.
5. The student may well benefit from concurrent enrollment in ENGL A414: Research Writing.
6. The process should begin with a proposal of no more than 1,000 words (statement of purpose, preliminary controlling generalization, and outline) along with an annotated bibliography of about ten items. This proposal needs to be approved by both faculty members before the student may proceed to write the honors thesis itself.
7. The anticipated length of the project is 7,500-10,000 words (exclusive of reference page[s]).
8. The final paper needs to be submitted to the two faculty members by the end of the last week of instruction of the semester during which the student is enrolled in ENGL A499.
9. The project should be undertaken in a student’s senior year.
10. Successful completion of ENGL A499 (with success defined as an A for the honors thesis) may be used to count for three (3) credits toward the seven (7) credit requirement of the University Honors Project Honors Senior Project.

Minor, English
The Department of English offers a minor in English with an emphasis in Literature, Linguistics, or Professional Writing. A total of 18 credits is required for the minor.

Students majoring in another subject who wish to minor in English must complete the following requirements.

Linguistics Emphasis
1. Complete these required courses (6 credits):
2. Complete 6 more credits from the following:
   LING A101  The Nature of Language  3
   LING A201  Intermediate Grammar  3
   ENGL A450  Linguistics and English Language Teaching  3
2. **Complete 12 credits from the following:** 12

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH A210</td>
<td>Introduction to Linguistic Anthropology</td>
<td>(3)</td>
</tr>
<tr>
<td>ANTH A361</td>
<td>Language and Culture</td>
<td>(3)</td>
</tr>
<tr>
<td>ENGL A450</td>
<td>Linguistics and English Language Teaching</td>
<td>(3)</td>
</tr>
<tr>
<td>ENGL A475</td>
<td>Modern Grammar</td>
<td>(3)</td>
</tr>
<tr>
<td>ENGL A476</td>
<td>History of English Language</td>
<td>(3)</td>
</tr>
<tr>
<td>ENGL A487</td>
<td>Standard Written English</td>
<td>(3)</td>
</tr>
<tr>
<td>ENGL A490</td>
<td>Topics in English Studies</td>
<td>(3)</td>
</tr>
</tbody>
</table>

*Counts for Linguistics Minor only when focus is on language.

### Literature Emphasis

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENGL A201</td>
<td>Masterpieces of World Literature I</td>
<td>(3)</td>
</tr>
<tr>
<td>ENGL A202</td>
<td>Masterpieces of World Literature II</td>
<td>(3)</td>
</tr>
<tr>
<td>ENGL A351</td>
<td>Poetry</td>
<td>(3)</td>
</tr>
<tr>
<td>ENGL A424</td>
<td>Shakespeare</td>
<td>(3)</td>
</tr>
<tr>
<td>ENGL A435</td>
<td>History of Criticism</td>
<td>(3)</td>
</tr>
<tr>
<td></td>
<td>Upper division English elective</td>
<td>(3)</td>
</tr>
</tbody>
</table>

### Professional Writing Emphasis

One of the following: 3

- ENGL A212  Technical Writing (3)
- ENGL A213  Writing in the Social and Natural Sciences (3)
- ENGL A214  Persuasive Writing (3)

Two of the following: 6

- ENGL A311  Advanced Composition (3)
- ENGL A312  Advanced Technical Writing (3)
- ENGL A313  Professional Writing (3)

One of the following: 3

- ENGL A414  Research Writing (3)
- ENGL A495  Internship in Professional Writing (1-6)

And both of the following: 3

- ENGL A334344 History of Rhetoric, Literacy, Rhetoric, & Social Practice
- Upper division elective approved by the English Department

### Minor, Creative Writing and Literary Arts

Students who wish to minor in Creative Writing and Literary Arts must complete the following requirements:

1. **CWLA A260**  Introduction to Creative Writing  3
2. One of the following: 3

   - CWLA A352  Writers' Workshop: Poetry (3)
   - CWLA A362  Writers' Workshop: Fiction (3)
   - CWLA A372  Writers' Workshop: Nonfiction (3)
   - CWLA A382  Writers' Workshop: Drama and Screenwriting (3)
3. One of the following: 3

   - ENGL A351  Poetry (3)
   - ENGL A361  The Novel (3)
   - ENGL A363  Short Story (3)
   - ENGL A371  Narrative Nonfiction (3)
   - ENGL A381  Drama (3)
ENGL A383  Film Interpretation (3)

4. One 300- or 400-level literature course. 3

5. One of the following: 3
   CWLA A452  Advanced Writers’ Workshop: Poetry (3)
   CWLA A462  Advanced Writers’ Workshop: Fiction (3)
   CWLA A472  Advanced Writers’ Workshop: Nonfiction (3)
   CWLA A482  Advanced Writers’ Workshop: Drama and Screenwriting (3)

6. One 300- or 400-level workshop (in a different genre) or one of the following: 3
   CWLA A259  Short Format Introduction to Creative Writing (repeatable twice with a change in subtitle) (1-3)
   CWLA A260  Introduction to Creative Writing (repeatable once) (3)
   ENGL A495  Internship in Professional Writing (1-6)

7. A total of 18 credits is required for the minor.

FACULTY

Aisha Barnes, Term Instructor, aabarnes@uaa.alaska.edu
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Emily Brackman, Term Instructor, ebrackman@uaa.alaska.edu
Jean Breinig, Associate Professor, jbreinig@uaa.alaska.edu
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Claudia Wallingford, Term Instructor, cwallingford@uaa.alaska.edu
Toby Widdicombe, Professor, twwiddicombe@uaa.alaska.edu
## Course Action Request

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course**

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>AS CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1b. Division</td>
<td>AMSC Division of Math Science</td>
</tr>
<tr>
<td>1c. Department</td>
<td>Geological Sciences</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>GEOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Course Number</td>
<td>A111</td>
</tr>
<tr>
<td>4. Previous Course Prefix &amp; Number</td>
<td>GEOL A111</td>
</tr>
<tr>
<td>5a. Credits/CEUs</td>
<td>3</td>
</tr>
<tr>
<td>5b. Contact Hours</td>
<td>(Lecture + Lab)</td>
</tr>
</tbody>
</table>

### Complete Course Title

**Physical Geology**

### Abbreviated Title for Transcript (30 character)

### Type of Course

- [x] Academic
- [ ] Preparatory/Development
- [ ] Non-credit
- [ ] CEU
- [ ] Professional Development

### Type of Action:

- [ ] Add
- [x] Change
- [ ] Delete

### Repeat Status No | # of Repeats | Max Credits

### Grading Basis

- [x] A-F
- [ ] P/NP
- [ ] NG

### Implementation Date

- Semester/year: Fall/2014 - 9999

### Cross Listed with

- [ ] Stacked with

- [ ] Cross-Listed Coordination Signature

### Impacted Courses or Programs:

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. BS and minor in Geological Sciences</td>
<td>2/28/13</td>
<td>L. Munk</td>
</tr>
<tr>
<td>2. BA in Biological Sciences</td>
<td>2/28/13</td>
<td>F. Rainey</td>
</tr>
<tr>
<td>3. BS Natural Sciences</td>
<td>2/28/13</td>
<td>F. Rainey</td>
</tr>
</tbody>
</table>

Initiator Name (typing): Kristine J Crossen

Initiator Signed Initials: _________

Date: __________________

### Coordination Email

Date: 2/28/13

submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

### Coordination with Library Liaison

Date: 4/1/13

### General Education Requirement

Mark appropriate box:
- [ ] Oral Communication
- [ ] Written Communication
- [ ] Quantitative Skills
- [ ] Humanities
- [ ] Social Sciences
- [ ] Natural Sciences
- [ ] Integrative Capstone

### Course Description (suggested length 20 to 50 words)

Introduction to physical geology, study of earth and its materials. Processes that operate on and within earth. Formation of common rocks and minerals, and basics of mineral and rock identification and classification.

### Course Prerequisite(s) (list prefix and number or test code and score)

### Co-requisite(s) (concurrent enrollment required)

### Other Restriction(s)

- [ ] College
- [ ] Major
- [ ] Class
- [ ] Level

### Mark if course has fees

### Mark if course is a selected topic course

### Justification for Action

Splitting combined lecture and lab course into 2 separate courses.

---

Initiator (faculty only)

Kristine J Crossen

Initiator (TYPE NAME)

Approved

Disapproved

Dean/Director of School/College

Date

---

Approved

Undergraduate/Graduate Academic

Date

Disapproved

Board Chair

Approved

Provost or Designee

Date
Course Content Guide
University of Alaska Anchorage
Department of Geological Sciences

GEOL A111
Physical Geology

I. Date of Initiation: Spring 2013

II. Course Information
   A) College or School: College of Arts and Sciences
   B) Course Title: Physical Geology
   C) Course Subject/Number: GEOL A111
   D) Credit Hours: 3
   E) Contact Time: (3+0)
   F) Grading Information: A-F
   G) Course Description: Introduction to physical geology, study of earth and its materials.
      Processes that operate on and within earth. Formation of common rocks and minerals,
      and basics of mineral and rock identification and classification.
   H) Status of course relative to degree program: Natural Science GER
   I) Lab Fees: No
   J) Registration Restriction: MATH A055 or higher
   K) Course Attributes: GER Natural Sciences

III. Instructional Goals and Student Learning Outcomes
   A) Instructional Goals: The instructor will:
      1) Summarize the study of the Earth including formation and structure
      2) Discuss the unifying theory of plate tectonics and present models that assess
         geologic processes using plate tectonic theory.
      3) Discuss atomic structure and the formation of Earth materials (minerals and rocks).
      4) Identify the internal and external processes that have shaped the Earth and apply the
         relevant information in order to make appropriate personal and professional
         decisions.
      5) Adopt critical perspectives for understanding geologic processes in the context of
         geologic time.
   B) Student Learning Outcomes and Evaluation

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify the ways in which theory of plate tectonics has advanced the overall understanding of Earth’s processes</td>
<td>Exams, assignments, quizzes</td>
</tr>
<tr>
<td>Demonstrate an understanding of the formation of minerals and rocks, and how minerals and rocks are identified and classified</td>
<td>Exams, assignments, quizzes</td>
</tr>
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</table>
Demonstrate what is currently known about Earth processes and the factors that affect them and develop hypotheses related to these systems

Exams, assignments, quizzes

IV. Course Activities
The course will consist of lectures, discussions, in-class activities and assignments.

V. Methods of Assessment
A) Mid-term and Final Exams may consist of short answer and/or essay questions, interpreting and/or drawing diagrams, multiple choice questions.
B) Quizzes may consist of multiple choice questions, short answer questions, or interpreting diagrams, photographs or other visual media.
C) Assignments consist of answering questions based on provided reading materials or other media, such as images, animations or video clips.

VI. Course Level Justification
This course requires little to no knowledge of geological sciences, however it does require some basic math skills.

VII. Topical Course Outline
A) Map Skills
B) Earth Formation and Structure
C) Minerals
D) Plate Tectonics
E) Igneous Rocks
F) Weathering and Sedimentary Rocks
G) Metamorphic Rocks
H) Economic Minerals
I) Fossil Fuels and Alternative Energy
J) Streams and Groundwater
K) Glaciers
L) Coastal Processes
M) Geologic Time
N) Crustal Deformation
O) Structural Geology
P) Earthquakes and Earthquake Hazards
Q) Mass Wasting

VIII. Suggested Text
IX. Bibliography


<table>
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<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
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<th>4. Previous Course Prefix &amp; Number</th>
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<tr>
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<td>List any programs or college requirements that require this course.</td>
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<td>Laboratory skills in physical geology. The identification and classification of minerals and rocks. The use and interpretation of maps and remote sensing techniques, and application of lab skills to interpret evidence of geologic processes. Includes a field trip led by the instructor. Special Note: If prerequisite was taken as an online course other than at UAA, the course must be completed prior to the lab.</td>
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35
Course Content Guide  
University of Alaska Anchorage  
Department of Geological Sciences  

GEOL A111L  
Physical Geology Laboratory

I. Date of Initiation: Spring 2013

II. Course Information  
A. College or School: College of Arts and Sciences  
B. Course Title: Physical Geology Laboratory  
C. Course Subject/Number: GEOL A111L  
D. Credit Hours: 1  
E. Contact Time: (0 + 3)  
F. Grading Information: A-F  
G. Course Description: Laboratory skills in physical geology. The identification and classification of minerals and rocks. The use and interpretation of maps and remote sensing techniques, and application of lab skills to interpret evidence of geologic processes. Includes a field trip led by the instructor. Special Note: If prerequisite was taken as an online course other than at UAA, the course must be completed prior to the lab.  
H. Course Prerequisites: GEOL A111 or concurrent enrollment  
I. Lab Fees: Yes  
J. Course Attributes: GER Natural Sciences

III. Instructional Goals and Student Learning Outcomes  
A. Instructional Goals: The instructor will:  
   1) Demonstrate how to identify rocks and minerals in hand sample.  
   2) Provide opportunities for students to practice identification and interpretation of rocks and minerals in hand sample.  
   3) Instruct students in the necessary skills for using and interpreting topographic and geologic maps, remote sensing, and for making and interpreting geologic cross-sections.  
   4) Provide opportunities for students to use rock identification and map skills to interpret evidence of geologic processes.  

B. Student Learning Outcomes and Evaluation

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Evaluation</th>
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<tbody>
<tr>
<td>Identify hand samples of minerals and rocks by using physical properties</td>
<td>Lab assignments, practical exams</td>
</tr>
<tr>
<td>Interpret texture and composition of rocks to infer the conditions of formation of sedimentary, igneous, and metamorphic rocks</td>
<td>Lab Assignments</td>
</tr>
</tbody>
</table>
Interpret topographic and geologic maps and remote sensing data; extract quantitative information from maps; construct and interpret topographic and geologic cross-sections

IV. Course Activities
The course will consist of short lectures, demonstrations, laboratory exercises, quizzes, exams, and a field trip led by the instructor.

V. Methods of Assessment
A. Practical Exams consist of identifying minerals and rocks in hand samples, interpreting maps and diagrams, constructing and interpreting a geologic cross-section.
B. Laboratory Assignments consist of recording observations, interpreting maps or diagrams, constructing topographic profiles and/or geologic cross-sections, answering questions based on provided reading materials or other media, such as images, animations or video clips.
C. Final Project consists of interpreting maps to infer portions of the geologic history of Alaska.

VI. Course Level Justification
This course requires little to no knowledge of geological sciences; however, it does require some basic math skills.

VII. Topical Course Outline
A. Map Skills
B. Minerals
C. Igneous Rocks
D. Sedimentary Rocks
E. Metamorphic Rocks
F. Streams and Groundwater
G. Glaciers
H. Coastal Processes
I. Geologic Time
J. Structural Geology
K. Final Project

VIII. Suggested Text

IX. Bibliography


<table>
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<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
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<td>AS CAS</td>
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### 2. Course Prefix
- GEOL

### 3. Course Number
- A121

### 4. Previous Course Prefix & Number
- N/A

### 5. Credits/CEUs
- 4

### 5b. Contact Hours (Lecture + Lab)
- (3+3)

### 6. Complete Course Title
- Applied Physical Geology

### 7. Type of Course
- Academic

### 8. Type of Action:
- **Add**

### 9. Repeat Status No
- # of Repeats
- Max Credits

### 10. Grading Basis
- A-F
- P/NP
- NG

### 11. Implementation Date
- semester/year
- From: Fall/2014
- To: /9999

### 13a. Impacted Courses or Programs:
- **List any programs or college requirements that require this course.**

### 13b. Coordination Email
- Date: 2/28/13
- submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

### 13c. Coordination with Library Liaison
- Date: 4/1/13

### 14. General Education Requirement
- Mark appropriate box:
  - Oral Communication
  - Written Communication
  - Quantitative Skills
  - Humanities
  - Fine Arts
  - Social Sciences
  - Natural Sciences
  - Integrative Capstone

### 15. Course Description
- **Suggested length 20 to 50 words**
- Development of applied geology skills through the study of earth, its materials, and processes operating on and within earth. Laboratory training in geologic maps and identification and interpretation of minerals and rocks. Special Note: Physical Geology for Geological Science majors, and other science and engineering students seeking geology course.

### 16a. Course Prerequisite(s)
- (list prefix and number or test code and score)

### 16b. Co-requisite(s)
- (concurrent enrollment required)

### 16c. Other Restriction(s)
- (list prefix and number or test code and score)

### 16d. Registration Restriction(s)
- (non-codable)
  - Math A055 or higher. Declared major in science or engineering.

### 17. Mark if course has fees
- ☒

### 18. Mark if course is a selected topic course
- ☐

### 19. Justification for Action
- New course to develop applied skills for geology, science and engineering majors.

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<tr>
<td>Kristine J Crossen</td>
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39
I. Date of Initiation: Spring 2013

II. Course Information
   A) College or School: College of Arts and Sciences
   B) Course Title: Applied Physical Geology
   C) Course Subject/Number: GEOL A121
   D) Credit Hours: 4
   E) Contact Time: (3+3)
   F) Grading Information: A-F
   G) Course Description: Development of applied geology skills through the study of earth, its materials, and processes affecting changes on and within earth. Laboratory training in geologic maps and identification and interpretation of minerals and rocks. Special Note: Physical Geology for geological science majors and other science and engineering students seeking geology course.
   H) Status of course relative to degree program: This is a required lower division course to satisfy BS Geological Sciences program.
   I) Lab Fees: Yes

III. Instructional Goals and Student Learning Outcomes
   A) Instructional Goals: The instructor will:
      1) Present the background of the study of the earth and earth materials, plate tectonic theory and earth’s internal and surface processes.
      2) Provide opportunities for students to investigate geology career options through industry mentoring.
      3) Provide opportunities for students to integrate geologic knowledge and skills by working with peers on applied geologic problems.
      4) In laboratory, (a) instruct students in the necessary skills for specimen identification, the use and interpretation of maps and construction of cross-sections, (b) provide specimens, maps, and opportunities for students to apply rock identification and map skills to interpret evidence of geologic processes, (c) give students access to geological sciences professionals from fields such as environmental, minerals, and oil and gas, and (d) provide an opportunity for students to conduct a geologic exercise in the field lead by the instructor.
B) Student Learning Outcomes and Evaluation

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Evaluation</th>
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<tbody>
<tr>
<td>Demonstrate an understanding of plate tectonics as the unifying theory in geology</td>
<td>Exams</td>
</tr>
<tr>
<td>Demonstrate an understanding of Earth processes and the factors that affect them</td>
<td>Exams, lab assignments and projects</td>
</tr>
<tr>
<td>Develop skills required by professionals in the discipline by working with peers on applied geologic problems, and investigating career options through industry mentoring</td>
<td>Lab quizzes, assignments, and field projects</td>
</tr>
<tr>
<td>Identify hand samples of minerals and rocks using physical properties, interpret texture and composition of rocks to infer their formation, interpret topographic and geologic maps, construct and interpret geologic cross-sections and stratigraphic columns, investigate geologic problems encountered by professionals in the discipline, and participate in field-based geologic exercises</td>
<td>Lab quizzes, assignments, and field projects</td>
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IV. Course Activities
The course will consist of lectures, discussions, laboratory work, a field trip, and small group collaboration facilitated by the instructor.

V. Methods of Assessment
A) Exams consist of short answer and/or essay questions, interpreting and/or drawing diagrams, multiple choice questions.
B) Laboratory practical quizzes consist of identifying unknown minerals and rocks in hand sample, interpreting maps, constructing and interpreting a geologic cross-section.
C) Laboratory assignments consist of recording observations, interpreting maps or diagrams, constructing topographic profiles and/or geologic cross-sections.
D) Laboratory projects consist of working in small groups to interpret maps and other geologic data to assess an authentic geologic problem.
E) Field trip projects consist of questions and reflections based on field experiences.

VI. Course Level Justification
This course requires little to no knowledge of geological sciences, but is intended for geology majors.

VII. Topical Course Outline
A) Map Skills
B) Earth Formation and Structure
C) Minerals
D) Plate Tectonics
E) Igneous Rocks
F) Weathering and Sedimentary Rocks
VIII. Suggested Text


VIII. Bibliography


### Course Action Request

**University of Alaska Anchorage**  
Proposal to Initiate, Add, Change, or Delete a Course

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If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Other Restrictions
- College
- Major
- ☒ Other CCG (please specify)

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#### 13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

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<td>2/28/13'</td>
<td>F. Rainey</td>
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Initiator Name (typed): Kristine J Crossen

Initiator Signed Initials: _________  Date:________________

#### 13b. Coordination Email

submitted to Faculty Listserv: (uas-faculty@lists.uaa.alaska.edu)

**Date: 2/28/13**

#### 13c. Coordination with Library Liaison

Date: 4/1/13

#### 14. General Education Requirement

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</table>

#### 15. Course Description (suggested length 20 to 50 words)

History of earth through geologic time, emphasizing North America. Major events in plate tectonics, evolution of life forms, and interpretation of the rock record. Lab includes invertebrate fossil identification, geologic map interpretation, stratigraphic principles, and field trip.

Special Note: Meets the GER natural science with lab requirement

#### 16a. Course Prerequisite(s) (list prefix and number)

GEOL A111L or GEOL A121 with minimum grade of C

#### 16b. Test Score(s)

#### 16c. Co-requisite(s) (concurrent enrollment required)

#### 16d. Other Restriction(s)

- ☐ College
- ☐ Major
- ☐ Class
- ☒ Level

#### 16e. Registration Restriction(s) (non-codable)

#### 17. ☐ Mark if course has fees

#### 18. ☐ Mark if course is a selected topic course

#### 19. Justification for Action

The department is making a curriculum change for the course prerequisite.
<table>
<thead>
<tr>
<th>Role</th>
<th>Approved</th>
<th>Disapproved</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiator (faculty only)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Kristine J Crossen</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Initiator (TYPE NAME)</td>
<td></td>
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<tr>
<td>Dean/Director of School/College</td>
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<tr>
<td>Department Chairperson</td>
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<td>Undergraduate/Graduate Academic Board Chairperson</td>
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<td>Curriculum Committee Chairperson</td>
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<tr>
<td>Provost or Designee</td>
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<td></td>
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</tr>
</tbody>
</table>
Course Content Guide  
University of Alaska Anchorage  

GEOL A221  
Historical Geology

I. Date of Initiation: Spring 2013

II. Course Information
A. College: CAS
B. Course Subject: Geological Sciences
C. Course Number: A221
D. Number of Credits: 4.0 (3+3)
E. Course Title: Historical Geology
F. Grading Basis: A-F
G. Course Description: History of earth through geologic time, emphasizing North America. Major events in plate tectonics, evolution of life forms, and interpretation of the rock record. Lab includes invertebrate fossil identification, geologic map interpretation, stratigraphic principles, and field trip. Special Note: Course meets the GER natural science with lab requirement.
H. Course Prerequisites: (GEOL A111L or GEOL A121) with minimum grade of C
I. Lab Fees: Yes
J. Course Attributes: GER Natural Sciences

III. Instructional Goals and Student Learning Outcomes
A. Instructional Goals: The instructor will:
   1. Help students understand the sequence in earth's history based on evidence from rocks and fossils.
   2. Explain how geologic maps and stratigraphic sections are used to reconstruct past depositional and plate tectonic environments.

B. Student Learning Outcomes and Evaluation

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply basic geologic principles and facts to new geologic data</td>
<td>Exams and exercises</td>
</tr>
<tr>
<td>Identify major types of invertebrate fossils</td>
<td>Lab handbook and exams</td>
</tr>
<tr>
<td>Interpret geologic maps and construct geologic cross-sections</td>
<td>Exams and lab exercises</td>
</tr>
<tr>
<td>Examine the changes in North American geology through time and explain evolution and demonstrate how it affects life forms over long periods of time</td>
<td>Exams</td>
</tr>
</tbody>
</table>

45
IV. Course Evaluations

Written and practical exams, quizzes, written exercises and problems, lab exercises, class discussion and special projects.

V. Course Level Justification

Requires GEOL A111 or A121 as prerequisite. Builds on skills acquired in these classes.

VI. Topical Course Outline

A. Introduction
   1. Historical development of ideas
   2. Historic figures in geologic ideas

B. General principles
   1. Stratigraphy
   2. Sedimentary rocks and structures
   3. Transgressions and regressions
   4. Depositional environments
   5. Geologic dating
   6. Evolution

C. Precambrian
   1. Origin of the universe, solar system, and earth
   2. Origin of life
   3. Evolution of the atmosphere
   4. Life forms – bacteria, prokaryotes, eukaryotes
   5. Plate tectonics – shield building, rifting

D. Paleozoic geology and life
   1. Early Paleozoic life – trilobites, brachiopods, graptolites, bryozoa
   2. Early Paleozoic geology – Taconic orogeny, transgressions
   3. Mid Paleozoic life – Coral reefs, fish, echinoderms, cephalopods
   4. Mid Paleozoic geology – Acadian orogeny, transgressions
   5. Late Paleozoic life – terrestrial amphibians, reptiles, and insects
   6. Late Paleozoic geology – Appalachian orogeny, regressions
   7. Permian extinction event – “Mother of all extinctions”

E. Mesozoic geology and life
   1. Mesozoic geology - Laramide orogeny, Tethys Seaway
   2. Mesozoic life – dinosaurs, marine reptiles, aerial reptiles, mammals
   3. Cretaceous extinction event
F. Cenozoic Geology and Life
1. Early Cenozoic geology – Cordilleran orogeny, regressions
2. Early Cenozoic life – early mammals, mammalian radiation
3. Late Cenozoic geology – glaciation, climate change

VII. Suggested Text


VIII. Bibliography


### Course Action Request

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course**

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
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<tbody>
<tr>
<td>AS CAS</td>
<td>AMSC Division of Math Science</td>
<td>Geological Sciences</td>
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</table>

<table>
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<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours (Lecture + Lab)</th>
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<td>GEOL</td>
<td>A456</td>
<td>N/A</td>
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<td>(3+0)</td>
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6. **Complete Course Title**

*Geoarchaeology*

*Abbreviated Title for Transcript (30 character)*

7. **Type of Course**

- [ ] Academic
- [ ] Preparatory/Development
- [ ] Non-credit
- [ ] CEU
- [ ] Professional Development

8. **Type of Action:**

- [ ] Add
- [ ] Change
- [ ] Delete

*If a change, mark appropriate boxes:*

- [ ] Prefix
- [ ] Credits
- [ ] Title
- [ ] Grading Basis
- [ ] Course Description
- [ ] Test Score Prerequisites
- [ ] Other Restrictions
- [ ] Class
- [ ] Level
- [ ] College
- [ ] Major
- [ ] Other CCG (please specify)

9. **Repeat Status No**

- [X] # of Repeats
- [ ] Max Credits

10. **Grading Basis**

- [X] A-F
- [ ] P/NP
- [ ] NG

11. **Implementation Date**

- From: Fall/2014
- To: 6/999

12. **Cross Listed with**

- [X] Stacked
- [ ] Disapproved
- [ ] Approved

13a. **Impacted Courses or Programs**: List any programs or college requirements that require this course.

*Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.*

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Catalog Page(s)</th>
<th>Impact</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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<tbody>
<tr>
<td>2. Anthropology - BS, BA</td>
<td>94-96</td>
<td>Impact</td>
<td>2/28/13</td>
<td>S. Langdon</td>
</tr>
<tr>
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</tr>
</tbody>
</table>

**Initiator Name (typed):** Kristine J Crossen

**Initiator Signed Initials:** __________

**Date:** __________

13b. **Coordination Email**

Date: 2/28/13

submitted to Faculty Listserv: [uaa-faculty@lists.uaa.alaska.edu](mailto:uaa-faculty@lists.uaa.alaska.edu)

13c. **Coordination with Library Liaison**

Date: 4/1/13

14. **General Education Requirement**

Mark appropriate box:

- [ ] Oral Communication
- [ ] Written Communication
- [ ] Quantitative Skills
- [ ] Humanities
- [ ] Fine Arts
- [ ] Social Sciences
- [ ] Natural Sciences
- [X] Integrative Capstone

15. **Course Description** *(suggested length 20 to 50 words)*

Integration of geology and archaeology. Rock identification of lithic sources, sediment analysis of site deposits, paleolandscape reconstruction, geochronology, and environmental change. Response to changes in resources and climate by past societies and application to contemporary problems and issues. Special Note: Students are required to provide their own transportation to field locales.

16a. **Course Prerequisite(s)** *(list prefix and number)*

*ANTH A211 and GEOL A221 with minimum C grade*

16b. **Test Score(s)**

16c. **Co-requisite(s)** *(concurrent enrollment required)*

16d. **Other Restriction(s)**

- [ ] College
- [ ] Major
- [X] Class
- [ ] Level

16e. **Registration Restriction(s)** *(non-codeable)*

- [ ] Junior standing or higher

17. **Mark if course has fees**

18. **Mark if course is a selected topic course**

19. **Justification for Action**

Course stacking to allow graduate students access to the course offering. Additional information concerning field trips.

---

**Initiator (faculty only)**

**Kristine J Crossen**

**Initiator Signed Initials:** __________

**Date:** __________

---

**Approved**

**Disapproved**

**Dean/Director of School/College**

**Date:** __________

---

**Approved**

**Disapproved**

**Undergraduate/Graduate Academic**

**Date:** __________

---

**Approved**

**Disapproved**

**Board Chairperson**

**Date:** __________

---

**Approved**

**Disapproved**

**Provost or Designee**

**Date:** __________

---
Course Content Guide  
University of Alaska Anchorage  

GEOL A456  
Geoarchaeology

I. Date of Initiation: Spring 2013

II. Course Information
A. College: CAS  
B. Course Subject: Geological Sciences  
C. Course Number: GEOL A456  
D. Number of Credits: 3.0 (3+0)  
E. Course Title: Geoarchaeology  
F. Grading Basis: A-F  
G. Course Description: Integration of geology and archaeology. Rock identification of lithic sources, sediment analysis of site deposits, paleolandscape reconstruction, geochronology, and environmental change. Response to changes in resources and climate by past societies and application to contemporary problems and issues. Special Note: Students are required to provide their own transportation to field locales.  
H. Course Prerequisites: ANTH A211 and GEOL A221 with minimum grade of C  
I. Restrictions: Junior standing or above  
J. Fees: Yes

III. Instructional Goals and Student Learning Outcomes

A. Instructional Goals: The instructor will:  
   1) Present the use of geologic concepts and methods to solve archaeological problems.  
   2) Apply earth science approaches of chronology, sedimentology, and environmental reconstructions to archaeological situations.  
   3) Assign reading and writing exercises that incorporate quantitative and critical thinking skills applied to investigate past societies and their links to modern environmental and climatic problems.

B. Student Learning Outcomes and Evaluations

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Evaluations</th>
</tr>
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<tbody>
<tr>
<td>Identify different lithologies used in tool making, determine Alaskan lithic sources, and analyze sediments and soils</td>
<td>Exams and exercises</td>
</tr>
<tr>
<td>Assess the processes that produce different types of landforms, and evaluate landforms using aerial photography</td>
<td>Exams</td>
</tr>
<tr>
<td>Critique the different dating techniques used in archaeological sites</td>
<td>Exams and exercises</td>
</tr>
</tbody>
</table>
Assess the major climate sequences over the past 4 million years, and judge the effect on site formation processes | Exercises

Demonstrate the ability to think critically about problems associated with partial data, discrepancies in dating techniques, and differences in data from a variety of sources | Graded discussion

Judge problems logically and resolve them reasonably using scientific methods | Exercises and exams

Assess past environmental changes and their impacts of human society and relate these to contemporary issues facing modern societies | Exercises and discussion

IV. Course Evaluations

The course will assess each student's ability to communicate effectively in both the written and oral formats through individual and group oral projects and through written synthesis of the professional literature. Projects will require students to locate and appropriately use a variety of library and web resources to complete their projects. The assignments will require quantitative and critical thinking skills to apply the lessons learned from past societies to understand and critically judge the responses of modern societies to problems of resource utilization, shortages, and climate change. The outcome will be evaluated using essay exams, class exercises, annotated bibliographies, and class discussions.

V. Course Level Justification

This interdisciplinary capstone course incorporates both archaeology (anthropology) and geology and satisfies the general education requirement. This course enables students to apply their background skills in GER basic college level courses (Tier 1) with geology and archeology disciplinary areas (Tier 2). Students must meet the criteria of Junior standing and have taken two 200-level courses as prerequisites. This course is part of the geology curriculum, requires prerequisites from two different disciplines, and requires the students to have the ability to read, analyze and synthesize the professional literature.

VI. Integrated Capstone Justification

1. Knowledge Integration/Interrelationships and synergy among GER disciplines: The course strives to integrate geology (natural science) and archaeology/anthropology (social science).

2. Effective Communication Skills: The course demands successful communication skills through essay examinations, individual and group classroom presentations, and discussions of current problems including climate change.
3. Critical Thinking: Students are required to integrate information across disciplines and to critically evaluate data, positions and arguments. They will be required to demonstrate their critical thinking in writing assignments, class presentations and examinations.

4. Information Literacy: Students will use computer and internet skills to acquire information, research scientific literature for information, and show that they can organize and analyze information from diverse sources. Discussions and presentations will test these skills.

5. Quantitative Perspectives: Students will use statistical analyses, graphical data, and tables of scientific data to investigate concepts and conclusions, and will generate graphical displays of their own results. Examinations and presentations will test these skills.

6. Evolving Realities of the 21st century: Understanding modern and past climate change as well as the human influences on climate change (and other processes occurring on the earth’s surface) help illustrate the connections between science, policy and social attitudes. This course strives to help students understand the impact of climate change on human societies (and vice versa) and understand the effects geologic processes on human societies (and vice versa) both in the past and present times.

VII. Topical Course Outline

A. Lithics
   1. Identification of rocks and minerals
   2. Lithics used for tools and Alaskan lithic sources

B. Sediments
   1. Depositional Environments - fluvial, aeolian, glacial, coastal
   2. Soil formation in different environments
   3. Paleosols - buried soils

C. Paleolandscape reconstruction
   1. Processes of landscape formation - fluvial, aeolian, glacial, coastal
   2. Interpretation of aerial photography

D. Geochronology
   1. Dating techniques used in archaeology - carbon dating, cosmogenic dating, radiometric dating, OSL (optically stimulated luminescence)

E. Quaternary climate change
   1. Effect of climate change on site formation and preservation
   2. Human response to past climate change
   3. Modern climate change and its effect on human societies

F. Professional literature on important sites
   1. Reading professional papers
   2. Writing annotated bibliographies
   3. Class discussion
VIII. Suggested Text(s)


IX. Bibliography


Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College  
AS CAS

1b. Division  
AMSC Division of Math Science

1c. Department  
Geological Sciences

2. Course Prefix  
GEOL

3. Course Number  
A656

4. Previous Course Prefix & Number  
N/A

5a. Credits/CEUs  
3

5b. Contact Hours  
(Lecture + Lab) (3+0)

6. Complete Course Title  
Geoarchaeology

7. Type of Course  
☑ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development

8. Type of Action:  
☑ Add  ☐ Change  ☐ Delete

If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Other Restrictions
- Class
- Level
- College
- Major
- Other CCG (please specify)

9. Repeat Status No  
☐ # of Repeats  ☐ Max Credits

10. Grading Basis  
☐ A-F  ☐ P/NC  ☐ NG

11. Implementation Date  
From: Fall/2014  To: 9/999

12. ☐ Cross Listed with  ☑ Stacked with GEOL A456  (Cross-Listed Coordination)

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.  
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Catalog Page(s)</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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<td>2/28/13</td>
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<tr>
<td>2. Anthropology - BS, BA</td>
<td>94-96</td>
<td>2/28/13</td>
<td>S. Langdon</td>
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Initiator Name (typed): Kristine J Crossen  
Initiator Signed Initials: __________ Date: __________

13b. Coordination Email  
Date: 2/28/13

13c. Coordination with Library Liaison  
Date: 4/1/13

14. General Education Requirement  
Mark appropriate box:

☐ Oral Communication  ☐ Written Communication  ☐ Quantitative Skills  ☐ Humanities

☐ Fine Arts  ☐ Social Sciences  ☐ Natural Sciences  ☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)  
Integration of geology and archaeology. Rock identification of lithic sources, sediment analysis of site deposits, paleolandscape reconstruction, geochronology, and environmental change. Response to changes in resources and climate by past societies and application to contemporary problems and issues. Independent research project required. Special Note: Students are required to provide their own transportation to field locales. Not available for credit if previously completed GEOL A456.

16a. Course Prerequisite(s) (list prefix and number)  
Instructor approval

16b. Test Score(s)

16c. Co-requisite(s) (concurrent enrollment required)

16d. Other Restriction(s)  
☐ College  ☐ Major  ☐ Class  ☑ Level

16e. Registration Restriction(s) (non-codable)  
Graduate Standing

17. ☑ Mark if course has fees  
18. ☐ Mark if course is a selected topic course

19. Justification for Action  
Designed as 600-level graduate course requiring independent research. Stacked with GEOL A456.

Initiator (faculty only)  
Date  
Kristine J Crossen

Initiator (TYPE NAME)  
Date

Approved  
Disapproved  
Dean/Director of School/College  
Date

Undergraduate/Graduate Academic  
Date

Board Chairperson  
Date

Provost or Designee  
Date

Approved  
Disapproved  
Approved  
Disapproved
I. Date of Initiation: Spring 2013

II. Course Information
   A. College: CAS
   B. Course Subject: Geological Sciences
   C. Course Number: GEOL A656
   D. Number of Credits: 3.0 (3+0)
   E. Course Title: Geoarchaeology
   F. Grading Basis: A-F
   G. Course Description: Integration of geology and archaeology. Rock identification of lithic sources, sediment analysis of site deposits, paleolandscape reconstruction, geochronology, and environmental change. Response to changes in resources and climate by past societies and application to contemporary problems and issues. Independent research project required. Special Note: Students are required to provide their own transportation to field locales. Not available for credit if previously completed GEOL A456.
   H. Course Prerequisites: Instructor Approval
   I. Restrictions: Graduate Standing
   J. Fees: Yes

III. Instructional Goals and Student Learning Outcomes

   A. Instructional Goals: The instructor will:
      1) Discuss the use of geologic concepts and methods to solve archaeological problems.
      2) Apply earth science approaches of chronology, sedimentology, and environmental reconstructions to archaeological situations.
      3) Appraise reading and writing skills that incorporate quantitative and critical thinking as applied to investigate past societies and their links to modern environmental and climatic problems.

   B. Student Learning Outcomes and Evaluation

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Assess the major climate sequences over the past 4 million years, and judge the effect on site formation processes | Exercises
---|---
Demonstrate the ability to think critically about problems associated with partial data, discrepancies in dating techniques, and differences in data from a variety of sources | Discussion
Judge problems logically and resolve them reasonably using scientific methods | Exercises and exams
Assess past environmental changes and their impacts of human society and relate these to contemporary issues facing modern societies | Exercises and discussion
Investigate an appropriate research topic, complete independent research and make a professional quality presentation to the class | Presentation

IV. Course Evaluations

The course will assess each student's ability to communicate effectively in both the written and oral formats through individual and group oral projects and through written synthesis of the professional literature. Projects will require students to locate and appropriately use a variety of library and web resources to complete their projects. The assignments will require quantitative and critical thinking skills to apply the lessons learned from past societies to understand and critically judge the responses of modern societies to problems of resource utilization, shortages, and climate change. The outcome will be evaluated using essay exams, research papers and/or oral presentations, class exercises, annotated bibliographies, and class discussions. Graduate students are required to complete an independent research topic and make a professional quality presentation.

V. Course Level Justification

This interdisciplinary course incorporates both archaeology (anthropology) and geology. This course requires background in two different disciplines, and requires the students to have the ability to read, analyze and synthesize the professional literature. The course requires graduate standing and independent research.

VI. Topical Course Outline

A. Lithics
   1. Identification of rocks and minerals
   2. Lithics used for tools and Alaskan lithic sources

B. Sediments
   1. Depositional Environments - fluvial, aeolian, glacial, coastal
   2. Soil formation in different environments
   3. Paleosols - buried soils

C. Paleolandscape reconstruction
   1. Processes of landscape formation - fluvial, aeolian, glacial, coastal
   2. Interpretation of aerial photography
D. Geochronology
   1. Dating techniques used in archaeology - carbon dating, cosmogenic dating, radiometric dating, OSL (optically stimulated luminescence)
E. Quaternary climate change
   1. Effect of climate change on site formation and preservation
   2. Human response to past climate change
   3. Modern climate change and its effect on human societies
F. Professional literature on important sites
   1. Reading professional papers
   2. Writing annotated bibliographies
   3. Class discussion
G. Independent research project and class presentation
   1. Individual research of materials or problem from archaeological site
   2. Professional quality presentation

VII. Suggested Text(s)


VIII. Bibliography


**Course Action Request**

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course**

<table>
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<td>AMSC Division of Math Science</td>
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<td>(0+3)</td>
</tr>
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**6. Complete Course Title**

Basic Physics I Laboratory

**Abbreviated Title for Transcript (30 character)**

**7. Type of Course**

- [X] Academic
- [ ] Preparatory/Development
- [ ] Non-credit
- [ ] CEU
- [ ] Professional Development

**8. Type of Action:**

- [ ] Add
- [X] Change
- [ ] Delete

**9. Repeat Status No**

# of Repeats: [ ]

Max Credits: [ ]

**10. Grading Basis**

- [X] A-F
- [ ] P/ NP
- [ ] NG

**11. Implementation Date**

From: Fall/2014  To: 9999

**12. Cross Listed with**

- [ ] NA

**13a. Impacted Courses or Programs:**

List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

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<td>1. see attached sheet</td>
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<tr>
<td>2.</td>
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<tr>
<td>3.</td>
<td></td>
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</tbody>
</table>

Initiator Name (typed): J. Pantaleone  Initiator Signed Initials: _________  Date: __________________

**13b. Coordination Email**

Date: 11-26-13  submitted to Faculty Lister: [uaa-faculty@lists.uaa.alaska.edu](mailto:uaa-faculty@lists.uaa.alaska.edu)

**13c. Coordination with Library Liaison**

Date: 12-02-13

**14. General Education Requirement**

Mark appropriate box:

- [ ] Oral Communication
- [ ] Written Communication
- [ ] Quantitative Skills
- [ ] Humanities
- [ ] Fine Arts
- [ ] Social Sciences
- [X] Natural Sciences
- [ ] Integrative Capstone

**15. Course Description (suggested length 20 to 50 words)**

Introductory physics laboratory with experiments in mechanics, fluids, and thermodynamics.

**16a. Course Prerequisite(s) (list prefix and number or test code and score)**

MATH A105 and [PHYS A123 with a minimum grade of C or concurrent enrollment].

**16b. Co-requisite(s) (concurrent enrollment required)**

NA

**16c. Other Restriction(s)**

- [ ] College
- [ ] Major
- [ ] Class
- [ ] Level

**16d. Registration Restriction(s) (non-codable)**

If the equivalent of PHYS A123 is taken from another institution, it must be completed prior to taking PHYS A123L.

**17. Mark if course has fees**

**18. Mark if course is a selected topic course**

**19. Justification for Action**

To update course and clarify expectations for a physics lab course.

Initiator (faculty only)  Date  [ ] Approved  [ ] Disapproved

Initiator (TYPE NAME)  Date  [ ] Approved  [ ] Disapproved

[ ] Approved  Dean/Director of School/College  Date

[ ] Approved  Undergraduate/Graduate Academic  Date

[ ] Approved  Board Chair  Date

[ ] Approved  Provost or Designee  Date

[ ] Approved  Department Chair  Date

[ ] Approved  College/School Curriculum Committee Chair  Date
COURSE CONTENT GUIDE

I. Date of Initiation: November 20, 2013

II. Course Information

1. College: CAS
2. Course Subject: PHYS
3. Course Number: A123L
4. Number of Credits: 1
5. Number of Contact Hours: 0+3
6. Course Title: Basic Physics I Laboratory
7. Grading Basis: A-F
8. Course Description:
   Introductory physics laboratory with experiments in mechanics, fluids, and thermodynamics.
9. Course Prerequisite:
   MATH A105 and [PHYS A123 with a minimum grade of C or concurrent enrollment].
10. Registration Restriction:
    If the equivalent of PHYS A123 is taken from another institution, it must be completed prior to taking PHYS A123L.
11. Fees: yes

III. Instructional Goals and Student Learning Outcomes

1. Instructional Goals

   1. To help students understand the scientific method: that the basis of knowledge in science is experiments.
   2. To reinforce the concepts covered in the PHYS A123 lecture.
   3. To provide each student with hands-on use of the modern tools for doing experimental physics and in the settings encountered by professionals in the discipline. The tools to be used include computerized data collection equipment with sensors such as sonic range finders, force sensors and video analysis. The instructor will supervise students as they use these tools to ensure that they are used in a safe and appropriate manner.
   4. To provide the student with use of modern data analysis tools. These include using computers for graphing, curve fitting, modeling and statistical analysis.
   5. To provide the student with an appreciation of uncertainties in measured quantities and uncertainty analysis techniques.
6. To help students develop collaborative learning skills in the investigation of physical phenomena. The instructor will provide direct supervision and guidance to students working in small groups in a laboratory setting.

7. To provide opportunities for students to gain familiarity and experience with the equipment and procedures of a college level physics laboratory.

2. **Student Learning Outcomes and Assessment Measures**

The students in this physics lab course will be able to

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>design and conduct mechanics experiments, and draw inferences from their observations.</td>
<td>Weekly lab reports.</td>
</tr>
<tr>
<td>demonstrate competency applying Newton's laws to physical situations.</td>
<td>Weekly lab reports and hands-on exams.</td>
</tr>
<tr>
<td>demonstrate the ability to work hands-on with up-to-date physics tools.</td>
<td>Performance in a laboratory setting</td>
</tr>
<tr>
<td>demonstrate competency in using computers to analyze data related to mechanics and motion.</td>
<td>Weekly lab reports and hands-on exams.</td>
</tr>
<tr>
<td>estimate the uncertainties on their physical measurements and use significant figures.</td>
<td>Weekly lab reports and exams.</td>
</tr>
<tr>
<td>collaborate in small groups to set up equipment, take measurements and analyze data.</td>
<td>Performance in a laboratory setting.</td>
</tr>
<tr>
<td>describe the equipment and safety procedures of a college level physics laboratory.</td>
<td>Demonstrated compliance with laboratory safety procedures and correct operation of equipment under the direction of physics laboratory personnel.</td>
</tr>
</tbody>
</table>

IV. **Topical Course Outline**

Experiments performed in this course typically address the following topics:

1. Lab safety
2. Introduction to Excel
3. Vector addition
4. 2D Kinematics
5. Acceleration of a cart on an inclined plane
6. Acceleration of a sliding box
7. Mystery mass and Atwood’s machine
8. Static equilibrium and mystery meterstick
9. Kinetic energy-work theorem
10. Ballistic pendulum
11. Thermal coefficient of linear expansion
12. Mechanical equivalent of heat

V. Suggested Text


VI. Bibliography


1a. School or College  
AS CAS  

1b. Division  
AMSC Division of Math Science  

1c. Department  
Physics  

2. Course Prefix  
PHYS  

3. Course Number  
A124L  

4. Previous Course Prefix & Number  
NA  

5a. Credits/CEUs  
1  

5b. Contact Hours  
(Lecture + Lab)  
(0+3)  

6. Complete Course Title  
Basic Physics II Laboratory  

Abbreviated Title for Transcript (30 character)  

7. Type of Course  
☒ Academic  
☐ Preparatory/Development  
☐ Non-credit  
☐ CEU  
☐ Professional Development  

8. Type of Action:  
☐ Add or  
☒ Change or  
☐ Delete  

If a change, mark appropriate boxes:  
☐ Prefix  
☐ Credits  
☐ Title  
☐ Repeat Status  
☐ Grading Basis  
☐ Cross-Listed/Stacked  
☒ Course Description  
☒ Course Prerequisites  
☐ Test Score Prerequisites  
☐ Co-requisites  
☐ Other Restrictions  
☐ Class  
☐ Level  
☐ College  
☐ Major  
☐ Other CCG (please specify)  

9. Repeat Status  
# of Repeats  
Max Credits  

10. Grading Basis  
☒ A-F  
☐ P/NP  
☐ NG  

11. Implementation Date  
semester/year  
From: Fall/2014  
To: /9999  

12. ☒ Cross Listed with  
NA  

☐ Stacked with  
NA  

Cross-Listed Coordination Signature  

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.  
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.  

<table>
<thead>
<tr>
<th>Impact Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. see attached sheet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
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</tbody>
</table>

Initiator Name (typed): J. Pantaleone  
Initiator Signed Initials: _________  
Date: __________________  

13b. Coordination Email  
Date: 11-26-13  
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)  

13c. Coordination with Library Liaison  
Date: 12-02-13  

14. General Education Requirement  
Mark appropriate box:  
☐ Oral Communication  
☐ Written Communication  
☐ Quantitative Skills  
☐ Humanities  
☐ Fine Arts  
☐ Social Sciences  
☒ Natural Sciences  
☐ Integrative Capstone  

15. Course Description (suggested length 20 to 50 words)  
Introductory physics laboratory with experiments in electricity and magnetism, waves, and optics.  

16a. Course Prerequisite(s) (list prefix and number or test code and score)  
[PHYS A123 and PHYS A123L] with minimum grades of C and [PHYS A124 with a minimum grade of C or concurrent enrollment].  

16b. Co-requisite(s) (concurrent enrollment required)  
NA  

16c. Other Restriction(s)  
☐ College  
☐ Major  
☐ Class  
☐ Level  

16d. Registration Restriction(s) (non-codable)  
If the equivalent of PHYS A124 is taken from another institution, it must be completed prior to taking PHYS A124L.  

17. ☒ Mark if course has fees  

18. ☐ Mark if course is a selected topic course  

19. Justification for Action  
To update course and clarify expectations for a physics lab course.  

Initiator (faculty only)  
Date  

J. Pantaleone  
Initiator (TYPE NAME)  

☐ Approved  
☐ Disapproved  
Dean/Director of School/College  
Date  

☐ Approved  
☐ Disapproved  
Undergraduate/Graduate Academic  
Board Chair  
Date  

☐ Approved  
☐ Disapproved  
Provost or Designee  
Date  

I. Date of Initiation: November 20, 2013

II. Course Information

1. College: CAS
2. Course Subject: PHYS
3. Course Number: A124L
4. Number of Credits: 1
5. Number of Contact Hours: 0+3
6. Course Title: Basic Physics II Laboratory
7. Grading Basis: A-F
8. Course Description:
   Introductory physics laboratory with experiments in electricity and magnetism, waves, and optics.

9. Course Prerequisite:
   [PHYS A123 and PHYS A123L] with minimum grades of C and [PHYS A124 with a minimum grade of C or concurrent enrollment].

10. Registration Restriction:
    If the equivalent of PHYS A124 is taken from another institution, it must be completed prior to taking PHYS A124L.

11. Fees: yes

III. Instructional Goals and Student Learning Outcomes

1. Instructional Goals
   1. To help students understand the scientific method: that the basis of knowledge in science is experiments.
   2. To reinforce the concepts covered in the PHYS A124 lecture.
   3. To provide each student with hands-on use of the modern tools for doing experimental physics and in the settings encountered by professionals in the discipline. The tools to be used include ammeters, voltmeters and computerized data collection equipment. The instructor will supervise students as they use these tools to ensure that they are used in a safe and appropriate manner.
   4. To provide the student with use of modern data analysis tools. These include using computers for graphing, curve fitting, modeling and statistical analysis.
   5. To provide the student with an appreciation of uncertainties in measured quantities and uncertainty analysis techniques.
   6. To help students develop collaborative learning skills in the investigation of physical phenomena. The instructor will provide direct supervision and guidance to students working in small groups in a laboratory setting.
7. To provide opportunities for students to gain familiarity and experience with the equipment and procedures of a college level physics laboratory.

2. **Student Learning Outcomes and Assessment Measures**

Students in this Physics lab course will be able to

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Measures</th>
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<tbody>
<tr>
<td>design and conduct electromagnetism and optics experiments, and draw inferences from their observations.</td>
<td>Weekly lab reports.</td>
</tr>
<tr>
<td>demonstrate competency applying the laws of electromagnetism to physical situations.</td>
<td>Weekly lab reports and hands-on exams.</td>
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IV. **Topical Course Outline**

Experiments performed in this course typically address the following topics:

1. Measuring the Spring Constant
2. Standing Waves on a String
3. Sound
4. Equipotentials and Fields
5. Ohm's Law
6. Circuit Analyses with Light Bulbs
7. Kirchhoff's Rules
8. Electromagnetic Induction
9. Building a DC Motor
10. Reflection and Refraction
11. Spherical Mirrors and Lenses
V. Suggested Text


VI. Bibliography


1a. School or College
   AS CAS

1b. Division
   AMSC Division of Math Science

1c. Department
   Physics and Astronomy

2. Course Prefix
   PHYS

3. Course Number
   A211

4. Previous Course Prefix & Number
   N/A

5a. Credits/CEUs
   3

5b. Contact Hours
   (Lecture + Lab) (3+0)

6. Complete Course Title
   General Physics I

7. Type of Course
   ☑ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development

8. Type of Action:
   ☐ Add  ☑ Change  ☐ Delete

If a change, mark appropriate boxes:
- ☐ Prefix
- ☐ Credits
- ☐ Title
- ☐ Grading Basis
- ☑ Cross-Listed/Stacked
- ☑ Course Description
- ☐ Test Score Prerequisites
- ☐ Co-requisites
- ☐ Other Restrictions
- ☐ Class
- ☐ Level
- ☐ College
- ☐ Major
- ☑ Other CCG (please specify)

9. Repeat Status No  # of Repeats  Max Credits

10. Grading Basis
   ☑ A-F  ☐ P/NP  ☐ NG

11. Implementation Date
   semester/year
   From: Fall 2014  To: /9999

12. ☐ Cross Listed with
    ☐ Stacked with
    Cross-Listed Coordination Signature

13a. Impacted Courses or Programs:

   Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

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<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
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<td></td>
</tr>
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</table>

   Initiator Name (typed): Katherine Rawlins
   Initiator Signed Initials: _________
   Date: __________________

13b. Coordination Email
   Date: 11/26/13
   submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
   Date: 12/2/13

14. General Education Requirement
   Mark appropriate box:
   ☐ Oral Communication  ☐ Written Communication  ☐ Quantitative Skills  ☐ Humanities
   ☐ Fine Arts  ☐ Social Sciences  ☑ Natural Sciences  ☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)
   Calculus-based course covering classical mechanics (statics and dynamics of translational and rotational motion), fluids, elasticity, gravitation, oscillations, and waves.

16a. Course Prerequisite(s) (list prefix and number or test code and score)
   [MATH A200 with minimum grade of C], and [MATH A201 with minimum grade of C or concurrent enrollment], and [PHYS A130 with minimum grade of C]

16b. Co-requisite(s) (concurrent enrollment required)
   N/A

16c. Other Restriction(s)
   ☐ College  ☐ Major  ☐ Class  ☐ Level

16d. Registration Restriction(s) (non-codable)
   A passing score on the departmental placement exam can be substituted for the PHYS 130 prerequisite. For full details on substitution options, see the physics department website.

17. ☐ Mark if course has fees

18. ☐ Mark if course is a selected topic course

19. Justification for Action
   Updates to CCG, clarification of prerequisites/registration restrictions, and updating course description to reflect topics covered

   ____________________________________________________  ___________
   Initiator (faculty only)         Date
   Katherine Rawlins

   Initiator (TYPE NAME)

   ☐ Approved  ☐ Disapproved  Dean/Director of School/College
   Date

   ☐ Approved  ☐ Disapproved  Undergraduate/Graduate Academic Board Chair
   Date

   ☐ Approved  ☐ Disapproved  Provost or Designee
   Date
COURSE CONTENT GUIDE

I. Date initiated: 11/20/2013

II. Course Information:
   A) College: College of Arts and Sciences   Department: Physics and Astronomy
   B) Course Title: General Physics I
   C) Course Prefix/Number: PHYS A211
   D) Number of credits: 3
   E) Contact hours: 3.0 + 0 (lecture + lab)
   F) Grading Basis: A-F
   G) Course Description: Calculus-based course covering classical mechanics 
      (statics and dynamics of translational and rotational motion), fluids, elasticity, 
      gravitation, oscillations, and waves.
   H) Status of course relative to degree programs: optional or required for 
      Biological Sciences, Chemistry, Natural Sciences, Physics (minor), Civil 
      Engineering, Computer Science, Engineering, and Geomatics programs.
   I) Fees: none
   J) Coordination: UAA Faculty Listserv, and heads of departments in affected 
      degree programs, or with affected courses (see attached coordination sheet).
   K) Prerequisite: [MATH A200 with minimum grade of C], and 
      [MATH A201 with minimum grade of C or concurrent enrollment], 
      and 
      [PHYS A130 with minimum grade of C]
   L) Registration restrictions: A passing score on the departmental placement 
      exam can be substituted for the PHYS A130 prerequisite. For full details on 
      substitution options, see the physics department website.

III. Course level justification:
    Calculus-level introductory physics is a traditional 200-level course, most often 
    taken by freshmen and sophomores in a science or engineering major program as a 
    two-semester series. This is the first semester of the series.

IV. Instructional Goals & Student Learning Outcomes
   A) Instructional Goals
      -- To provide the student with an in-depth understanding of the fundamental 
      concepts of classical mechanics
      -- To teach both conceptual understanding and problem solving techniques
      -- To teach students vector analysis and calculus applied to classical mechanics
      -- To teach the theoretical basis of standard solutions to problems in statics and 
      dynamics
-- To expose students to problems from a wide range of physical phenomena with emphasis on engineering and real-world applications
-- To help students learn about friction, gravitation, elastic systems (both driven and damped), as well as properties of fluids

B) Student Learning Outcomes & Assessment Methods

<table>
<thead>
<tr>
<th>The student will…</th>
<th>… as measured by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manipulate 2 and 3 dimensional vector quantities</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>Calculate motion in two dimensions</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>Employ force diagrams to write down equations of motion</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>Apply energy and momentum conservation to solve problems</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>Predict conserved quantities in 1- and 2-dimensional collisions</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>Solve the differential equations associated with oscillatory motion</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>Use Bernoulli’s equation to solve fluid problems</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>Relate wave interference to observed properties of sound</td>
<td>Homework and in-class tests</td>
</tr>
</tbody>
</table>

V. Topical course outline:

1. Motion in One Dimension
   a) Velocity, Speed, Acceleration
   b) Derivation of Kinematic Equations
2. Properties of Scalars and Vectors; Unit Vectors
   a) Vector Manipulations
3. Motion in Two Dimensions
   a) Displacement, Velocity, Acceleration Vectors
   b) Projectiles, Circular Motion
   c) Tangential Velocity and Acceleration in Curvilinear Motion; Vector Representation
   d) Relative Motion
   e) Effect of High Velocities
4) Newton's Laws of Motion
   a) Inertia, Inertial Mass, Weight, Friction
5) Newton's Laws and Circular Motion
6) Work and Energy
   a) Constant Forces and Work
   b) Variable Forces and Work
   c) Work and Kinetic Energy
7) Potential Energy and Conservation of Energy
a) Conservative vs. Non-Conservative Forces
b) Mechanical Energy
c) Gravitational Potential Energy
8) Linear Momentum and Collisions
  a) Impulse Forces and Linear Momentum
  b) Conservation of Linear Momentum
  c) Two-Particle Systems
  d) Collisions in One Dimension
  e) Collisions in Two Dimensions; Center of Mass
  f) Rocket Propulsion
9) Rotation of a Rigid Body – Fixed Axis
  a) Angular Velocity and Acceleration; Vector Form
  b) Rotational Kinematics; Angular Acceleration
  c) Moment of Inertia; Torque
  d) Torque and Angular Acceleration
  e) Work and Energy in Rotating Systems
10) Rolling Motion, Angular Momentum
  a) Torque and the Vector Product
  b) Rotation of a Rigid Body about a Fixed Axis
  c) Conservation of Angular Momentum
11) Static Equilibrium and Elasticity
  a) Conditions for Equilibrium
  b) Center of Gravity
  c) Elastic Properties of Solids
12) Oscillatory Motion
  a) Simple Harmonic Motion (SHM)
  b) Mass on a Spring
  c) Energy in SHM Oscillations
  d) The Pendulum
  e) Damped and Driven Oscillations
  f) Resonance
13) Gravitation
  a) Newton’s Law of Gravitation
  b) Measurement of G
  c) Weight and the Gravitational Force
  d) The Gravitational Field; Planetary Motion
  e) Gravitational Potential Energy
  f) Gravitation due to Extended Bodies
14) Fluid Mechanics
  a) States of Matter; Density and Pressure
  b) Buoyant Forces and Archimedes’ Principle
  c) Equation of Continuity
  d) Bernoulli’s Equation
15) Wave Motion
  a) Types of Waves
  b) One-Dimensional Traveling Waves
  c) Superposition and Interference of Waves
  d) Speed of Waves on a String
  e) Reflection and Transmission of Waves
  f) Sinusoidal Waves
16) Sound Waves
a) Speed of Sound Waves
b) Periodic Sound Waves
c) Spherical and Plane Waves
d) Doppler Effect

17) Superposition and Standing Waves
   a) Superposition and Interference of Sinusoidal Waves
   b) Standing Waves in a String
   c) Standing Waves in Air Columns
   d) Resonance

18) Thermodynamics
   a) Temperature Scales
   b) Thermal Expansion
   c) Measurement of Temperature

VI. Suggested text(s):


VII. Bibliography

### Course Action Request

**University of Alaska Anchorage**  
Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS CAS</td>
<td>AMSC Division of Math Science</td>
<td>Physics</td>
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<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours (Lecture + Lab)</th>
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<tr>
<td>PHYS</td>
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<td>1</td>
<td>(0+3)</td>
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<tr>
<th>6. Complete Course Title</th>
<th>Abbreviated Title for Transcript (30 character)</th>
</tr>
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<tbody>
<tr>
<td>General Physics I Laboratory</td>
<td>General Physics I Laboratory</td>
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<thead>
<tr>
<th>7. Type of Course</th>
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</tr>
<tr>
<td>Non-credit</td>
</tr>
<tr>
<td>CEU</td>
</tr>
<tr>
<td>Professional Development</td>
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</tbody>
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<table>
<thead>
<tr>
<th>8. Type of Action:</th>
<th>Add</th>
<th>Change</th>
<th>Delete</th>
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If a change, mark appropriate boxes:
- Prefix
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- Cross-Listed/Stacked
- Course Description
- Co-requisites
- Test Score Prerequisites
- Registration Restrictions
- General Education Requirement
- Other Restrictions
- Class
- Level
- Major
- Other CCG (please specify)

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<tr>
<th>9. Repeat Status No</th>
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<th>12. Cross Listed with NA</th>
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Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

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<th>Chair/Coordinator Contacted</th>
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<td>2</td>
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Initiator Name (typed): J. Pantaleone  
Initiator Signed Initials: _________  
Date: __________

13b. Coordination Email

Date: 11-26-13  
submitted to Faculty Listserv: [uaa-faculty@lists.uaa.alaska.edu](mailto:uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison

Date: 12-02-13

14. General Education Requirement

Mark appropriate box:
- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

Calculus-based introductory physics laboratory with experiments in computerized data collection and analysis, mechanics, waves, elasticity, and wave motion.

16a. Course Prerequisite(s) (list prefix and number or test code and score)

PHYS A211 with a minimum grade of C or concurrent enrollment.

16b. Co-requisite(s) (concurrent enrollment required)

NA

16c. Other Restriction(s)

- College
- Major
- Class
- Level

16d. Registration Restriction(s) (non-codable)

If the equivalent of PHYS A211 is taken from another institution, it must be completed prior to taking PHYS A211L.

17. Mark if course has fees

18. Mark if course is a selected topic course

19. Justification for Action

To update course and clarify expectations for a physics lab course.

Initiator (faculty only)

Initiator (TYPE NAME)

Approved

Disapproved

Dean/Director of School/College

Date

Approved

Disapproved

Undergraduate/Graduate Academic

Date

Approved

Disapproved

Board Chair

Date

Approved

Disapproved

Provost or Designee

Date
COURSE CONTENT GUIDE

I. Date of Initiation: November 20, 2013

II. Course Information

1. College: CAS
2. Course Subject: PHYS
3. Course Number: A211L
4. Number of Credits: 1
5. Number of Contact Hours: 0+3
6. Course Title: General Physics I Laboratory
7. Grading Basis: A-F
8. Course Description:
   Calculus-based introductory physics laboratory with experiments in computerized data collection and analysis, mechanics, waves, elasticity, and wave motion.
9. Course Prerequisite:
   PHYS A211 with a minimum grade of C or concurrent enrollment.
10. Registration Restriction:
    If the equivalent of PHYS A211 is taken from another institution, it must be completed prior to taking PHYS A211L.
11. Fees: yes

III. Instructional Goals and Student Learning Outcomes

1. Instructional Goals
   1. To help students understand the scientific method: that the basis of knowledge in science is experiments.
   2. To reinforce the concepts covered in the PHYS A211 lecture.
   3. To provide each student with hands-on use of the modern tools for doing experimental physics and in the settings encountered by professionals in the discipline. The tools to be used include rulers, micrometers, sonic range finders, force sensors, video analysis and computerized data collection equipment. The instructor will provide hands-on supervision of the student's use of these tools in a laboratory setting.
   4. To provide the student with use of modern data analysis tools. These include using computers for graphing, curve fitting, modeling and statistical analysis.
5. To provide the student with an appreciation of uncertainties in measured quantities and uncertainty analysis techniques.
6. To help students develop collaborative learning skills in the investigation of physical phenomena. The instructor will provide direct supervision and guidance to students working in small groups in a laboratory setting.
7. To provide opportunities for students to gain familiarity and experience with the equipment and procedures of a college level physics laboratory.

2. **Student Learning Outcomes and Assessment Measures**

The students in this Physics lab course will be able to

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>design and conduct mechanics experiments, and draw inferences from their observations.</td>
<td>Weekly lab reports.</td>
</tr>
<tr>
<td>demonstrate competency applying Newton's laws to physical situations.</td>
<td>Weekly lab reports and hands-on midterm and final exams.</td>
</tr>
<tr>
<td>demonstrate competency in the hands-on use of measuring devices related to mechanics.</td>
<td>Performance in a laboratory setting.</td>
</tr>
<tr>
<td>demonstrate competency in using computers to analyze data related to mechanics and motion.</td>
<td>Weekly lab reports and hands-on exams.</td>
</tr>
<tr>
<td>estimate the uncertainties in their physical measurements and propagate these uncertainties to their final, calculated results.</td>
<td>Weekly lab reports and exams.</td>
</tr>
<tr>
<td>collaborate in small groups to set up equipment, take measurements and analyze data.</td>
<td>Performance in a laboratory setting.</td>
</tr>
<tr>
<td>describe the equipment and safety procedures of a college level physics laboratory.</td>
<td>Demonstrated compliance with laboratory safety procedures and correct operation of equipment under the direction of physics laboratory personnel.</td>
</tr>
</tbody>
</table>

IV. **Topical Course Outline**

Experiments performed in this course typically address the following topics:

1. Lab safety
2. Introduction to Excel
3. 2D Kinematics
4. Propagation of Errors
5. Cart on an Inclined Plane
6. Acceleration of a Sliding Box
7. Conservation of Momentum
8. Rotational Motion
9. Simple Harmonic Motion
10. Waves on a String
11. Added Mass of a Ball in the Air

V. Suggested Text


VI. Bibliography


Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
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<td>AS CAS</td>
<td>AMSC Division of Math Science</td>
<td>Physics and Astronomy</td>
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<td>A212</td>
<td>N/A</td>
<td>3</td>
<td>(Lecture + Lab)</td>
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<th>6. Complete Course Title</th>
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<th>Delete</th>
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If a change, mark appropriate boxes:
- Prefix
- Credits
- Grade
- Course Prerequisite
- Contact Hours
- Title
- Repeat Status
- Cross-Listed/Stacked
- General Education Requirement
- Course Description
- Registration Restrictions
- Cross-Listed/Stacked

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<th>9. Repeat Status No</th>
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<th>11. Implementation Date</th>
<th>semester/year</th>
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<td>To: /9999</td>
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<tr>
<th>12. Cross Listed with</th>
<th>Stacked with</th>
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</table>

Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

<table>
<thead>
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<td></td>
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Initiator Name (typed): Katherine Rawlins
Initiator Signed Initials: __________ Date: __________

<table>
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<tr>
<th>13b. Coordination Email</th>
<th>Date: 11/26/13</th>
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<tr>
<td>submitted to Faculty Listserv: (<a href="mailto:uaa-faculty@lists.uaa.alaska.edu">uaa-faculty@lists.uaa.alaska.edu</a>)</td>
<td>(<a href="mailto:uaa-faculty@lists.uaa.alaska.edu">uaa-faculty@lists.uaa.alaska.edu</a>)</td>
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<table>
<thead>
<tr>
<th>13c. Coordination with Library Liaison</th>
<th>Date: 12/2/13</th>
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</table>

14. General Education Requirement
Mark appropriate box:
- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

15. Course Description (suggested length 20 to 50 words)
Calculus-based course emphasizing basic electromagnetic theory, waves, fundamentals of geometric and physical optics, and light.

16a. Course Prerequisite(s) (list prefix and number or test code and score)
[MATH A201 with minimum grade of C], and [MATH A202 with minimum grade of C or concurrent enrollment], and [PHYS A211 with minimum grade of C]

16b. Co-requisite(s) (concurrent enrollment required)
N/A

16c. Other Restriction(s)
- College
- Major
- Class
- Level

16d. Registration Restriction(s) (non-codable)
N/A

17. Mark if course has fees

18. Mark if course is a selected topic course

19. Justification for Action
Updates to CCG, and clarification of prerequisites

Initiator (faculty only)
Katherine Rawlins
Initiator (TYPE NAME)

Approved
Disapproved
Date
Dean/Director of School/College
Date

Approved
Disapproved
Undergraduate/Graduate Academic
Board Chair
Date

Approved
Disapproved
Provost or Designee
Date

Approved
Disapproved
Department Chair
Date

Approved
Disapproved
College/School Curriculum Committee Chair
Date

Approved
Disapproved

COURSE CONTENT GUIDE

I. Date initiated: 11/20/2013

II. Course Information:
   A) College: College of Arts and Sciences
   B) Course Title: General Physics II
   C) Course Prefix/Number: PHYS A212
   D) Number of credits: 3
   E) Contact hours: 3.0 + 0 (lecture + lab)
   F) Grading Basis: A-F
   G) Course Description: Calculus-based course emphasizing basic electromagnetic theory, waves, fundamentals of geometric and physical optics, and light.
   H) Status of course relative to degree programs: optional or required for Biological Sciences, Chemistry, Natural Sciences, Physics (minor), Civil Engineering, Computer Science, and Engineering programs
   I) Fees: none
   J) Coordination: UAA Faculty Listserv, and heads of departments in affected degree programs, or with affected courses (see attached coordination sheet).
   K) Prerequisite: [MATH A201 with minimum grade of C], and [MATH A202 with minimum grade of C or concurrent enrollment], and [PHYS A211 with minimum grade of C]
   L) Registration restrictions: none

III. Course level justification:
    Calculus-level introductory physics is a traditional 200-level course, most often taken by freshmen and sophomores in a science or engineering major program as a two-semester series. This is the second semester of the series.

IV. Instructional Goals & Student Learning Outcomes
   A) Instructional Goals
      -- To provide the student with an in-depth understanding of the fundamental concepts of classical electricity and magnetism
      -- To teach both conceptual understanding and problem solving techniques
      -- To teach students vector analysis and calculus applied to classical electricity and magnetism
      -- To expose students to problems from a wide range of exercises with emphasis on engineering and real-world applications
-- To give the student an introduction to electromagnetic phenomena, including Maxwell’s Equations, and the theory of light and its propagation

-- To teach how light interacts with matter in simple optics, including lenses, mirrors, reflection, refraction, interference, and diffraction

B) Student Learning Outcomes & Assessment Methods

<table>
<thead>
<tr>
<th>The student will…</th>
<th>… as measured by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manipulate vector laws of nature involving the cross product</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>Calculate motion of charged particles in electric or magnetic fields</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>Employ vector calculus to derive equations of motion from potentials</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>Apply flux conservation to solve electrostatic problems</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>Predict the behavior of circuits from Kirchoff’s laws</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>Solve LC circuit equations associated with oscillatory motion</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>Use geometric optics to predict the behavior of lenses</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>Relate wave interference to observed properties of light</td>
<td>Homework and in-class tests</td>
</tr>
</tbody>
</table>

V. Topical course outline:

1. Heat and the First Law of Thermodynamics
   a) Heat Capacity, Specific Heat, Latent Heat
   b) Heats of Fusion and Vaporization
   c) First Law of Thermodynamics – Applications

2. Kinetic Theory of Gases
   a) Molecular Model of Gases; Ideal Gases
   b) Temperature; Heat Capacity
   c) Adiabatic Processes; Equipartition of Energy

3. Heat Engines; Entropy; Second Law of Thermodynamics
   a) Reversible and Irreversible Processes
   b) Isothermal and Isobaric Processes
   c) Carnot Cycle
   d) Entropy

4. Electric Fields
   a) Electric Charge; Insulators and Conductors
   b) Coulomb’s Law and the Electric Field
   c) Charge Distributions and Fields
   d) Motion of an Electric Charge in an Electric Field
5. Gauss’s Law
   a) Electric Flux
   b) Gauss’s Law for Insulators and Conductors

6. Electric Potential
   a) Electric Potential and Potential Energy
   b) Point Charges vs. Charge Distributions
   c) Millikans’ Oil Drop Experiment
   d) Potential of a Charged Conductor

7. Capacitance and Dielectric
   a) Definition and Calculation of Capacitance
   b) Capacitors; Applications
   c) Series and Parallel Combinations
   d) Dielectrics
   e) Energy Considerations

8. Current and Resistance
   a) Current; Resistance; Ohm’s Law
   b) Electrical Energy and Power

9. Direct Current Circuits
   a) Series and Parallel Resistive Circuits
   b) EMF; Kirchoff’s Rules
   c) Capacitance; RC Circuits

10. Magnetic Fields
    a) Magnetic Forces on Electrical Currents in Wires
    b) Torque on a Current Loop in a Magnetic Field
    c) Motion of a Charged Particle in a Magnetic Field
    d) Biot-Savart Law and the Origin of Magnetic Fields
    e) Ampere’s Law
    f) Magnetic Field of a Solenoid
    g) Magnetic Flux; Gauss’s Law for Magnetism

11. Faraday’s Law
    a) The Law of Induction
    b) Motional EMF
    c) Induced EMF and Electric Fields
    d) Maxwell’s Equations

12. Inductance
    a) Self-inductance; RL Circuits
    b) Energy in Magnetic Fields
    c) Mutual Inductance
    d) Oscillations in an LC Circuit
    e) RLC Circuits

13. Alternating Current Circuits
    a) AC Sources and Phasors
    b) Resistors, Capacitors, and Inductors in AC Circuits
    c) The RLC Series Circuit
    d) Power in AC Circuits
    e) Resonance in AC Circuits

14. Electromagnetic Waves
    a) Maxwell’s Equations
    b) Plane Electromagnetic Waves
    c) Energy and EM Waves
    d) Momentum and Radiation Pressure
15. Light and Optics
   a) Speed of Light; Frequency; Wavelength
   b) Wave Relation for Light
   c) Reflection and Refraction
   d) Dispersion and Prisms
   e) Huygens' Principle
   f) Total Internal Reflection

16. Geometric Optics
   a) Images Formed by Lenses
   b) Images Formed by Mirrors; Plane and Spherical
   c) Thin Lenses; Single and Compound
   d) Aberrations of Lenses

17. Interference and Diffraction
   a) Description of the Effects
   b) Intensity Distribution for the Double Slit
   c) Phasors and Wave Addition
   d) Single Slit Diffraction
   e) Resolution of Single Slit and Circular Apertures
   f) Diffraction Gratings
   g) Polarization

VI. Suggested text(s):

VII. Bibliography
### Course Action Request

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course**

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS CAS</td>
<td>AMSC Division of Math Science</td>
<td>Physics</td>
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<th>2. Course Prefix</th>
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<th>4. Previous Course Prefix &amp; Number</th>
<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours (Lecture + Lab)</th>
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<td>PHYS</td>
<td>A212L</td>
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<th>6. Complete Course Title</th>
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<td>General Physics II Laboratory</td>
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If a change, mark appropriate boxes:
- Prefix
- Credits
- Title
- Grading Basis
- Cross-Listed/Stacked
- Course Description
- Course Prerequisites
- Test Score Prerequisites
- Co-requisites
- Other Restrictions
- Registration Restrictions
- General Education Requirement

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<tr>
<td>with NA</td>
<td>List any programs or college requirements that require this course.</td>
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Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

**Initiator Name (typed):** J. Pantaleone

<table>
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<tr>
<th>13b. Coordination Email</th>
<th>13c. Coordination with Library Liaison</th>
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<tr>
<td>Date: 11-26-13</td>
<td>Date: 12-02-13</td>
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[see attached sheet]

**Impacted Program(s)/Course(s):**

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<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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**Date:**

**14. General Education Requirement**

Mark appropriate box:

- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

**15. Course Description** *(suggested length 20 to 50 words)*

Calculus-based introductory physics laboratory with experiments in electric and magnetic fields, geometric and physical optics, and light.

**16a. Course Prerequisite(s)** *(list prefix and number or test code and score)*

[PHYS A211 and PHYS A211L] with minimum grades of C and [PHYS A212 with a minimum grade of C or concurrent enrollment].

**16b. Co-requisite(s)** *(concurrent enrollment required)*

NA

**16c. Other Restriction(s)**

- College
- Major
- Class
- Level

**16d. Registration Restriction(s)** *(non-codable)*

If the equivalent of PHYS A212 is taken from another institution, it must be completed prior to taking PHYS A212L.

**17. Mark if course has fees**

**18. Mark if course is a selected topic course**

**19. Justification for Action**

To update course and clarify expectations for a physics lab course.

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<th>Department Chair</th>
<th>Date</th>
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<th>Disapproved</th>
<th>Board Chair</th>
<th>Date</th>
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<th>College/School Curriculum Committee Chair</th>
<th>Date</th>
<th>Approved</th>
<th>Disapproved</th>
<th>Provost or Designee</th>
<th>Date</th>
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</table>
I. Date of Initiation: November 20, 2013

II. Course Information

1. College: CAS
2. Course Subject: PHYS
3. Course Number: A212L
4. Number of Credits: 1
5. Number of Contact Hours: 0+3
6. Course Title: General Physics II Laboratory
7. Grading Basis: A-F
8. Course Description:
   Calculus-based introductory physics laboratory with experiments in electric and magnetic fields, geometric and physical optics, and light.
9. Course Prerequisite:
   [PHYS A211 and PHYS A211L] with minimum grades of C and [PHYS A212 with a minimum grade of C or concurrent enrollment].
10. Registration Restriction:
    If the equivalent of PHYS A212 is taken from another institution, it must be completed prior to taking PHYS A212L.
11. Fees: yes

III. Instructional Goals and Student Learning Outcomes

1. Instructional Goals

   1. To help students understand the scientific method: that the basis of knowledge in science is experiments.
   2. To reinforce the concepts covered in the PHYS A212 lecture.
   3. To provide each student with hands-on use of the modern tools for doing experimental physics and in the settings encountered by professionals in the discipline. The tools to be used include ammeters, voltmeters, capacitance meters, gauss meters, photometers and computerized data collection equipment. The instructor will provide hands-on supervision of the student's use of these tools in a laboratory setting.
   4. To provide the student with use of modern data analysis tools. These include using computers for graphing, curve fitting, modeling and statistical analysis.
   5. To provide the student with an appreciation of uncertainties in measured quantities and uncertainty analysis techniques.
6. To help students develop collaborative learning skills in the investigation of physical phenomena. The instructor will provide direct supervision and guidance to students working in small groups in a laboratory setting.

7. To provide opportunities for students to gain familiarity and experience with the equipment and procedures of a college level physics laboratory.

2. **Student Learning Outcomes and Assessment Measures**

   Students in this Physics lab course will be able to

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<th>Outcomes</th>
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<tr>
<td>design and conduct electromagnetism and optics experiments, and draw inferences from their observations.</td>
<td>Weekly lab reports.</td>
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<tr>
<td>demonstrate competency applying Maxwell's equations to physical situations.</td>
<td>Weekly lab reports and hands-on exams.</td>
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<tr>
<td>demonstrate competency in the hands-on use of electromagnetic measuring devices.</td>
<td>Performance in a laboratory setting.</td>
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<tr>
<td>demonstrate competency in using computers to analyze data related to electricity and magnetism.</td>
<td>Weekly lab reports and hands-on exams.</td>
</tr>
<tr>
<td>estimate the uncertainties in their physical measurements and propagate these uncertainties to their final, calculated results.</td>
<td>Weekly lab reports and exams.</td>
</tr>
<tr>
<td>collaborate in small groups to setup equipment, take measurements and analyze data.</td>
<td>Performance in a laboratory setting.</td>
</tr>
<tr>
<td>describe the equipment and safety procedures of a college level physics laboratory.</td>
<td>Demonstrated compliance with laboratory safety procedures and correct operation of equipment under the direction of physics laboratory personnel.</td>
</tr>
</tbody>
</table>

IV. **Topical Course Outline**

   Experiments performed in this course typically address the following topics:

   1. Coulomb's Law
   2. Electric Forces and Fields
   3. I vs. V for Resistors and Diodes
   4. Mystery Circuits
   5. Capacitors
   6. Magnetic Field of Magnet
   7. Charge to Mass Ratio for the Electron
8. Induction, Faraday's Law
9. Build a Motor
10. Geometric Optics
11. Interference and Diffraction of Light

V. Suggested Text


VI. Bibliography


TO: Governance Committees  
FROM: Randy Magen, Associate Dean College of Health  
DATE: December 23, 2013  
SUBJ: Creation of College of Health Prefix (COHI)

The Issues
A proposed course was approved through department (Health Sciences, Human Services, Justice Center, Social Work and Psychology) and College curriculum committees (both College of Health and College of Arts and Sciences). This course was not only cross-listed between the five departments and two colleges, it was also stacked.

Upon reaching the governance office, Lora Volden contacted the initiators and informed them that such a course was “unsustainable” due to limitations in Banner and the scheduling program used by the Registrar’s office. A further issue was, from the Registrar’s experience, many units at some point stop coordinating the scheduling of cross-listed courses, which adds to the difficulties. The Banner issue is that the system can only handle two equivalent courses (think of this as a course cross-listed with two departments). The scheduling program requires that the number of seats for each discipline be entered as well as a capacity for each discipline. When the seats are filled for one discipline, students who attempt to register under that discipline are locked out even though seats may be unfilled from other disciplines. Furthermore, the massively cross-listed and stacked course would require 10 class scheduling forms, as a result the Registrar’s office would not be able to use the automated class scheduling program. Lora added that her inquiries with colleagues at other universities suggests that many colleges are moving away from cross-listing and stacked courses, partly because of the confusion it creates for students.

A meeting was held to understand the issue of “unsustainability” and to craft a solution. Attending the meeting were Susan Kalina, Lora Volden, David Yesner and Randy Magen.

Solutions
Two possible solutions were discussed. Both involve the creation of a new course prefix. The first would be "owned" by the Office of Academic Affairs and courses within the prefix would be "owned" by Colleges or possibly departments (units). The general sentiment at the meeting was that while this could be workable for one or two courses, it was not a long-term solution, particularly if the College of Health is moving toward more interprofessional courses. Courses "owned" by different Colleges or departments (units) under the same prefix would likely lead to confusion on the part of students.

A more promising solution is reflected in the attached Prefix Action Request (PAR) to create a College of Health prefix, COHI. This solution is preferred because it would be clearer for students and logical in terms of the purpose of the courses (interprofessional). Since the College has the ability to allocate tuition dollars to units, this solution also allows tuition dollars to flow back to units providing instructors or perhaps based on the student's major. In follow up email with Erin Holmes, Associate
Vice Provost in charge of Institutional Research, it appears that Student Credit Hour production could also be allocated to units based on student major or perhaps instructor department.

An issue with both solutions is that a course with the College of Health prefix would not appear as an elective within the student’s major. That is, many departments require students to take X number of electives within the major (within the prefix). A temporary solution to this problem is a one-year blanket petition covering the specific course to allow it to be counted as an elective within the major. A longer-term solution will be to make changes to catalog copy. Another advantage of the College of Health prefix is that a catalog change could be for the entire prefix, as opposed to one course. These catalog changes will be forthcoming.

The final piece of work will be to create a Memorandum of Understanding between the units involved in the course so that issues related to instructor workload, student credit hour production, tuition, are made explicit.
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. School or College</td>
<td>CH College of Health</td>
</tr>
<tr>
<td>1b. Department</td>
<td></td>
</tr>
<tr>
<td>2. Complete Program Title/Prefix</td>
<td>College of Health/ COHI</td>
</tr>
<tr>
<td>3. Type of Program</td>
<td>Undergraduate: or Graduate: Other: specify type in box 2</td>
</tr>
<tr>
<td>This program is a Gainful Employment Program:</td>
<td>No</td>
</tr>
<tr>
<td>4. Type of Action</td>
<td>PROGRAM: Add or Change or Delete</td>
</tr>
<tr>
<td>PREFIX</td>
<td>PREFIX: Add or Change or Inactivate</td>
</tr>
<tr>
<td>5. Implementation Date (semester/year)</td>
<td>From: Fall/2014 To: /9999</td>
</tr>
<tr>
<td>6a. Coordination with Affected Units</td>
<td>Department, School, or College: College of Health</td>
</tr>
<tr>
<td>Initiator Name (typed):</td>
<td>Randy Magen</td>
</tr>
<tr>
<td>Initiator Signed Initials:</td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td></td>
</tr>
<tr>
<td>6b. Coordination Email submitted to Faculty Listserv</td>
<td>Date: 12/23/2013</td>
</tr>
<tr>
<td>(<a href="mailto:uaa-faculty@lists.uaa.alaska.edu">uaa-faculty@lists.uaa.alaska.edu</a>)</td>
<td></td>
</tr>
<tr>
<td>6c. Coordination with Library Liaison</td>
<td>Date: 12/23/2013</td>
</tr>
<tr>
<td>7. Title and Program Description - Please attach the following:</td>
<td>Cover Memo or Catalog Copy in Word using the track changes function</td>
</tr>
<tr>
<td>8. Justification for Action</td>
<td>This prefix will house interprofessional courses offered by units within the College of Health. The alternative approach, cross listing a course across multiple departments is not sustainable due to limitations in Banner and the scheduling program used by the Registrar's office.</td>
</tr>
</tbody>
</table>

Initiator (faculty only) Date

Initiator (TYPE NAME)

Approved Disapproved

Dean/Director of School/College Date

Department Chair Date

Undergraduate/Graduate Academic Board Chair Date

College/School Curriculum Committee Chair Date

Provost or Designee Date
Course Action Request  
University of Alaska Anchorage 
Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
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<tr>
<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMS A321</td>
<td>N/A</td>
<td>A321</td>
<td>3.0</td>
<td>(3+0)</td>
</tr>
</tbody>
</table>

6. Complete Course Title  
Diversity Issues in Human Services Practice  
Diversity Issues in HUMS Pract

Abbreviated Title for Transcript (30 character): Diversity Issues in HUMS Pract

7. Type of Course  
- [x] Academic  
- [ ] Preparatory/Development  
- [ ] Non-credit  
- [ ] CEU  
- [ ] Professional Development

8. Type of Action:  
- [ ] Add  
- [x] Change  
- [ ] Delete

If a change, mark appropriate boxes:

- [ ] Prefix  
- [ ] Credits  
- [ ] Title  
- [ ] Grading Basis  
- [x] Course Description  
- [ ] Course Prerequisites  
- [ ] Test Score Prerequisites  
- [ ] Other Restrictions  
- [ ] Class  
- [ ] Level  
- [ ] College  
- [ ] Major  
- [ ] Other (please specify)

9. Repeat Status No  
- [ ] # of Repeats  
- [ ] Max Credits

10. Grading Basis  
- [x] A-F  
- [ ] P/NP  
- [ ] NG

11. Implementation Date  
- [ ] semester/year  
From: Fall/2014  
To: 9999

12. [ ] Cross Listed with N/A  
[ ] Stacked with N/A

Cross-Listed Coordination Signature

13a. Impacted Courses or Programs:  
List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

<table>
<thead>
<tr>
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<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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<td>4/8/2013</td>
<td>Laura Kelley</td>
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<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
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</table>

Initiator Name (typed): Lynn Paterna  
Initiator Signed Initiials: __________  
Date: __________

13b. Coordination Email  
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

Date: 4/8/2013

13c. Coordination with Library Liaison  
Date: 4/8/2013

14. General Education Requirement  
Mark appropriate box:

- [ ] Oral Communication  
- [ ] Written Communication  
- [ ] Quantitative Skills  
- [ ] Humanities  
- [ ] Fine Arts  
- [ ] Social Sciences  
- [ ] Natural Sciences  
- [ ] Integrative Capstone

15. Course Description  
(suggested length 20 to 50 words)  
Examines diversity from historical and current perspectives with an emphasis upon self-awareness. The relevant needs of diverse groups are incorporated into Human Services best practices through readings, role-plays and group activities.

16a. Course Prerequisite(s)  
(list prefix and number or test code and score)

(HUMS A101 and HUMS A223) with a grade C or better

16b. Co-requisite(s)  
(concurrent enrollment required)

N/A

16c. Other Restriction(s)

- [ ] College  
- [ ] Major  
- [ ] Class  
- [ ] Level

16d. Registration Restriction(s)  
(non-codable)

N/A

17. [ ] Mark if course has fees

18. [ ] Mark if course is a selected topic course

19. Justification for Action  
Updating curriculum to prepare for the upcoming Council for Standards in Human Service Education reaccreditation

Initiator (faculty only)  
Initiator Signed Name: Lynn Paterna  
Date: __________

Initiator (TYPE NAME)

[ ] Approved  
[ ] Disapproved

Dean/Director of School/College  
Date: __________

[ ] Approved  
[ ] Disapproved

Undergraduate/Graduate Academic  
Date: __________

[ ] Approved  
[ ] Disapproved

Board Chair  
Date: __________

[ ] Approved  
[ ] Disapproved

Provost or Designee  
Date: __________
University of Alaska Anchorage  
College of Health  
Course Content Guide

I. Date of Initiation  
Fall, 2013

II. Curriculum Action Request
A. College  
College of Health
B. Course Subject  
Human Services
C. Course Number  
HUMS A321
D. Number of Credits  
3
E. Contact Hours  
3+0
F. Course Program  
Bachelors Degree in Human Services
G. Course Title  
Diversity Issues in Human Services Practice
H. Grading Basis  
A-F
I. Implementation Date  
Fall, 2014
J. Cross-listed/Stacked  
N/A
K. Course Description:  
Examines diversity from historical and current perspectives with an emphasis upon self-awareness. The relevant needs of diverse groups are incorporated into Human Services best practices through readings, role-plays and group activities.

L. Course Prerequisites  
(HUMS A101 and HUMS A223) with a grade C or better.
M. Test Scores  
N/A
N. Course Co-Requisite  
N/A
O. Other Restrictions  
N/A
P. Registration Restrictions  
N/A
Q. Course Fees  
N/A

III. Instructional Goals and Student Outcomes
A. The instructor will:
1. Examine general issues related to a range of human diversity issues in human services practice to include trauma awareness.
2. Identify aspects of cultural competence and examination biases and attitudes related to multicultural work with clients.
3. Link knowledge about racism and prejudice and how they impact services delivery.
4. Provide information and skills to be able to identify and effectively use appropriate interventions with diverse clients.
5. Identify cross-cultural communication skills.
6. Provide a foundational knowledge about working with specific populations.
7. Examine the effects of culture and diversity on client functioning in various life domains.
B. Upon completion of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Analyze general issues related to a range of diversity issues in human services practice to include trauma awareness.</td>
<td>Class discussion and written test</td>
</tr>
<tr>
<td>2. Demonstrate an understanding of cultural competence.</td>
<td>Conduct an ethnographic interview and write a report with an oral presentation.</td>
</tr>
<tr>
<td>3. Identify the role their own biases and attitudes play in relation to multicultural work with clients.</td>
<td>Write own ethnic, cultural background story and explore multicultural biases.</td>
</tr>
<tr>
<td>4. Analyze ways in which racism and prejudice impact service delivery.</td>
<td>Term paper</td>
</tr>
<tr>
<td>5. Demonstrate effective cross-cultural communication skills.</td>
<td>Role-play</td>
</tr>
<tr>
<td>6. Identify and effectively discriminate among interventions with diverse clients.</td>
<td>Case studies, class discussion and paper</td>
</tr>
<tr>
<td>7. Demonstrate advanced knowledge about working with specific populations.</td>
<td>Role-play</td>
</tr>
<tr>
<td>8. Analyze the effects of culture and diversity on client functioning in various life domains.</td>
<td>Case analysis, class discussion and paper</td>
</tr>
</tbody>
</table>

IV. Course Level Justification
This course is a core requirement for a Bachelor of Human Services degree and a selective in the human services minor. The curriculum builds upon previous course work and requires familiarity with the concepts, methods and vocabulary of the discipline. The course provides students with significant knowledge regarding diversity issues and interventions as related to human services practice.

V. Topical Course Outline
1.0 Cultural Competence
   1.1 Attitudes
   1.2 Values
   1.3 Interaction

2.0 Understanding Racism and Prejudice
   2.1 Historical perspectives
   2.2 Current responses
   2.3 Power and oppression
   2.4 Effects of racism on society
   2.5 White privilege
   2.6 Class

3.0 Understanding Culture and Cultural Differences
   3.1 Consequences of exclusion
   3.2 Strategies for inclusion

4.0 Ethnic Children, Parenting, and Families
   4.1 Historical patterns in Alaska
   4.2 Role of social systems
4.3 Bi-cultural families
4.4 Immigration and acculturation

5.0 Mental Health Issues
5.1 Gender, ethnic, or culturally biased testing instruments
5.2 Under-over-representation as clients in treatment centers
5.3 Underrepresentation as providers of treatment services

6.0 Bias in Service Delivery
6.1 Access to services
6.2 Lack of culturally relevant services
6.3 Limited knowledge of appropriate interventions

7.0 Critical Issues in Working with Culturally Different Clients
7.1 Awareness of self
7.2 Exploration of own biases
7.3 Counseling approaches
7.4 Role of spirituality

8.0 Working with Specific Ethnically Diverse Populations
8.1 Alaska Native/Native Americans
8.2 Hispanic/Latinos
8.3 African Americans
8.4 Asian/Pacific Islander
8.5 White and white ethnic

9.0 Understanding other Diversity Issues
9.1 Ageism
9.2 Sexism
9.3 Ability status
9.4 Sexuality

VI. Suggested Texts


VII. Bibliography and Resources


**Classical readings**


### Course Action Request

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course**

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<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours (Lecture + Lab)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMS</td>
<td>A322</td>
<td>N/A</td>
<td>3.0</td>
<td>(3+0)</td>
</tr>
</tbody>
</table>

**6. Complete Course Title**

*Service Coordination in Human Services Practice*

*Service Coord in HUMS Practice*

**Abbreviated Title for Transcript (30 character)**

**7. Type of Course**

- [X] Academic
- [ ] Preparatory/Development
- [ ] Non-credit
- [ ] CEU
- [ ] Professional Development

**8. Type of Action:**

- [ ] Add
- [ ] Change
- [ ] Delete

**9. Repeat Status No**

• # of Repeats: 
• Max Credits: 

**10. Grading Basis**

- [X] A-F
- [ ] P/NP
- [ ] NG

**11. Implementation Date (semester/year)**

From: Fall/2014
To: /9999

**12. Cross Listed with**

N/A

**13a. Impacted Courses or Programs**

List any programs or college requirements that require this course. Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

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<tr>
<td>3.</td>
<td></td>
<td></td>
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</table>

**14. General Education Requirement**

Mark appropriate box:

- [ ] Oral Communication
- [ ] Written Communication
- [ ] Quantitative Skills
- [ ] Humanities
- [ ] Fine Arts
- [ ] Social Sciences
- [ ] Natural Sciences
- [ ] Integrative Capstone

**15. Course Description (suggested length 20 to 50 words)**

Examines service coordination from both theoretical and applied perspectives. Employing a blend of readings and skill development activities, the course focuses upon theory and application associated with: service delivery, client assessment, treatment planning, implementation, evaluation and ethical decision making.

16a. Course Prerequisite(s) (list prefix and number or test code and score) (HUMS A101 and HUMS A223) with a grade C or better.

16b. Co-requisite(s) (concurrent enrollment required) N/A

16c. Other Restriction(s)

- [ ] College
- [ ] Major
- [ ] Class
- [ ] Level

16d. Registration Restriction(s) (non-codable) N/A

17. [ ] Mark if course has fees

18. [ ] Mark if course is a selected topic course

**19. Justification for Action**

*Updating curriculum to prepare for the upcoming Council for Standards in Human Service Education reaccreditation*

**Initiator Name (typed): Lynn Paterna**

Initiator Signed Initials: __________ Date: __________

**13b. Coordination Email**

Date: 4/8/2013

submitted to Faculty Listserv: [uaa-faculty@lists.uaa.alaska.edu](mailto:uaa-faculty@lists.uaa.alaska.edu)

**13c. Coordination with Library Liaison**

Date: 4/8/2013

**14. General Education Requirement**

Mark appropriate box:

- [ ] Oral Communication
- [ ] Written Communication
- [ ] Quantitative Skills
- [ ] Humanities
- [ ] Fine Arts
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16c. Other Restriction(s)

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- [ ] Major
- [ ] Class
- [ ] Level

16d. Registration Restriction(s) (non-codable) N/A

17. [ ] Mark if course has fees

18. [ ] Mark if course is a selected topic course

**19. Justification for Action**

*Updating curriculum to prepare for the upcoming Council for Standards in Human Service Education reaccreditation*

**Initiator (faculty only)**

Lynn Paterna

Initiator (TYPE NAME)

[ ] Approved ________ Date ________ Dean/Director of School/College

[ ] Disapproved ________ Date ________

**Undergraduate/Graduate Academic Board Chair**

[ ] Approved ________ Date ________ Provost or Designee

[ ] Disapproved ________ Date ________
I. Date of Initiation
Fall, 2013

II. Curriculum Action Request
A. College College of Health
B. Course Subject Human Services
C. Course Number HUMS A322
D. Number of Credits 3
E. Contact Hours 3+0
F. Course Program Bachelors Degree in Human Services
G. Course Title Service Coordination in Human Services Practice
H. Grading Basis A-F
I. Implementation Date Fall, 2014
J. Cross-listed/Stacked N/A
K. Course Description: Examines service coordination from both theoretical and applied perspectives. Employing a blend of readings and skill development activities, the course focuses upon theory and application associated with: service delivery, client assessment, treatment planning, implementation, evaluation and ethical decision making.

L. Course Prerequisites (HUMS A101 and HUMS A223) with a grade C or better.
M. Test Scores N/A
N. Course Co-Requisite N/A
O. Other Restrictions N/A
P. Registration Restrictions N/A
Q. Course Fees N/A

III. Instructional Goals and Student Outcomes
A. The instructor will:
   1. Link the issues related to service coordination across disciplines.
   2. Provide understanding of the definitions and responsibilities in service coordination.
   3. Present trauma awareness and trauma informed care as an integrated part of service coordination.
   4. Facilitate the examination of student biases and attitudes related to service delivery.
   5. Increase cultural competence.
   6. Provide effective communication skills.
   9. Identify tools to monitor client services with provider agencies.

B. Upon completion of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Identify issues related to service coordination in human services practice.</td>
<td>Paper</td>
</tr>
<tr>
<td>2. Analyze these issues from an empowerment and strengths based perspective.</td>
<td>Case analysis</td>
</tr>
<tr>
<td>3. Link the responsibilities of service coordination to client success.</td>
<td>Cooperative group presentation</td>
</tr>
<tr>
<td>4. Analyze presences of trauma.</td>
<td>Case analysis</td>
</tr>
</tbody>
</table>
### Student Learning Outcomes and Assessment Measures

<table>
<thead>
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<tbody>
<tr>
<td>5. Demonstrate their cultural competence.</td>
<td>Role play, class discussion</td>
</tr>
<tr>
<td>6. Demonstrate their communication skills.</td>
<td>Role play</td>
</tr>
<tr>
<td>7. Select and effectively use appropriate screening/assessment instruments for service planning.</td>
<td>Case analysis and paper</td>
</tr>
<tr>
<td>8. Monitor client progress and coordinate with provider agencies.</td>
<td>Case analysis and paper</td>
</tr>
</tbody>
</table>

### IV. Course Level Justification

This course is a core requirement for a Bachelor of Human Services degree and a selective in the Human Services minor. The curriculum builds upon previous course work and requires familiarity with the concepts, methods and vocabulary of the discipline. The course provides students with significant knowledge regarding case coordination as related to human services practice.

### V. Topical Course Outline

1.0 Foundations for Best Practice
   - 1.1 Introduction to service coordination
   - 1.2 Historical perspectives
   - 1.3 Definitions and responsibilities
   - 1.4 Models of care coordination

2.0 Professional Issues
   - 2.1 Examining attitudes and perceptions
   - 2.2 Maintaining objectivity in service coordination
   - 2.3 Clarifying who owns the problem

3.0 Diversity-Cultural Competence in Working with a Range of People

4.0 Effective Communication
   - 4.1 Identifying appropriate responses
   - 4.2 Active listening
   - 4.3 Asking questions effectively
   - 4.4 Bringing up difficult issues
   - 4.5 Acknowledging and reducing anger

5.0 Client Assessment
   - 5.1 Documentation of client information
   - 5.2 Interviewing
   - 5.3 Selecting appropriate screening instruments
   - 5.4 Confidentiality and information gathering and sharing

6.0 Service Planning
   - 6.1 Preparing for service planning meeting
   - 6.2 Developing a service plan with a client
   - 6.3 Making referrals
   - 6.4 Documentation of goals and plan

7.0 Monitoring Services
7.1 Monitoring the services or treatment
7.2 Coordination with provider agency
7.3 Terminating the case

VI. Suggested Texts


VII. Bibliography and Resources


# Course Action Request

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course**

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If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Cross-Listed/Stacked
- Course Description
- Course Prerequisites
- Test Score Prerequisites
- Co-requisites
- Registration Restrictions
- General Education Requirement
- Class
- Level
- College
- Major
- Other

(please specify)

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### Impacted Program/Course

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1. BHS Human Services 4/08/2013 Laura Kelley
2.                      
3.                      

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13c. Coordination with Library Liaison Date: 4/08/2013

14. General Education Requirement

Mark appropriate box:

- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

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<th>15. Course Description (suggested length 20 to 50 words)</th>
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<tr>
<td>Provides a conceptual framework in Alternative Dispute Resolution with emphasis on history, communication skills and ethics. Uses simulation exercises including negotiation strategy and tactics, mediation process and techniques, and development of arbitration case theory presentation.</td>
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16a. Course Prerequisite(s) (list prefix and number or test code and score) (HUMS A223 and HUMS A224) with a grade C or better.

16b. Co-requisite(s) (concurrent enrollment required) N/A

16c. Other Restriction(s)

- College
- Major
- Class
- Level

16d. Registration Restriction(s) (non-codable) Admitted to the Bachelor of Human Services Degree or with departmental approval.

17. Mark if course has fees

18. ☐ Mark if course is a selected topic course

19. Justification for Action

Updating curriculum to prepare for the upcoming Council for Standards in Human Service Education reaccreditation

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I. Date of Initiation
   Fall, 2013

II. Curriculum Action Request
   A. College College of Health
   B. Course Subject Human Services
   C. Course Number HUMS A333
   D. Number of Credits 3
   E. Contact Hours 3+0
   F. Course Program Bachelors Degree in Human Services
   G. Course Title Alternative Dispute Resolution
   H. Grading Basis A-F
   I. Implementation Date Fall 2014
   J. Cross-listed/Stacked N/A
   K. Course Description Provides a conceptual framework in alternative dispute resolution with emphasis on history, communication skills and ethics. Uses simulation exercises including negotiation strategy and tactics, mediation process and techniques, and development of arbitration case theory presentation.
   L. Course Prerequisites (HUMS A223 and HUMS A224) with a grade C or better.
   M. Test Scores N/A
   N. Course Co-Requisite N/A
   O. Other Restrictions Admitted to the Bachelor of Human Services Degree or with departmental approval.
   P. Registration Restrictions N/A
   Q. Course Fees N/A

III. Instructional Goals and Student Learning Outcomes
   A. The instructor will:
      1. Provide history and concepts of alternative dispute resolution.
      2. Examine skills in mediation, negotiation and conflict management.
      3. Identify and examine the link between trauma awareness and dispute resolution.
      4. Examine the contrasts and comparisons between the existing legal adversarial system and the collaborative system of alternative dispute resolution.
      5. Identify skills in conflict management, styles and tactics utilized in alternative dispute resolution.
   B. Upon completion of this course, the student will be able to:


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<td>1. Identify concepts of alternative dispute resolution.</td>
<td>Class discussion and small group activities</td>
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<td>2. Demonstrate skills for mediation, negotiation and conflict management.</td>
<td>Exams, group demonstrations, and small group activities</td>
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<tr>
<td>3. Analyze the role of trauma awareness in dispute resolution.</td>
<td>Group activities and role plays</td>
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IV. Course Level Justification
This course is a core requirement for a Bachelor of Human Services degree and a selective in the Human Services minor. The curriculum builds upon previous course work and requires familiarity with the concepts, methods and vocabulary of the discipline. The techniques taught in this course prepare students to identify situations in need of dispute resolution and predict the best outcome using the skills for of alternative dispute resolution.

V. Topical Course Outline
1.0 Safety-General Campus Safety

2.0 History of Alternative Dispute Resolution

3.0 Conflict in the Workplace
   3.1 Conflict in our society
   3.2 Types of conflict
   3.3 Benefits of conflict

4.0 Communication
   4.1 Communication skills
   4.2 Active listening
   4.3 Nonverbal communication
   4.4 Neurolinguistic programming
   4.5 Communication and trauma awareness

5.0 Conflict Management Strategies
   5.1 Alternative dispute resolution processes and application
   5.2 Alternatives to traditional conflict handling
   5.3 Introduction to alternative dispute resolution
   5.4 The alternative dispute resolution continuum
   5.5 Selecting a process

6.0 Overview of Negotiation
   6.1 Game theory
   6.2 The economic model of bargaining
   6.3 The social-psychological bargaining theory
   6.4 The adversarial bargaining theory
   6.5 Problem-solving negotiation

7.0 Overview of Mediation
   7.1 The mediation process
   7.2 How mediation works
   7.3 Mediation strategies
   7.4 Mediation tactics
8.0 Arbitration
  8.1 Procedure and techniques of presentation
  8.2 Strategy and tactics
  8.3 Understanding the award

9.0 Ethics
  9.1 Legal and professional
  9.2 Failure to disclose
  9.3 Threats
  9.4 Conflicts of interest

VI. Suggested Texts


VII. Bibliography and Resources


National Coalition Against Domestic Violence: Alaska State Information:


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| 17. Mark if course has fees | 18. Mark if course is a selected topic course | 19. Justification for Action |
|-----------------------------|-----------------------------------------------|Updating curriculum to meet the revised Council for Standards in Human Service Education standards.|

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University of Alaska Anchorage  
College of Health  
Course Content Guide  

I. Date of Initiation  
Fall, 2013  

II. Curriculum Action Request  
A. College    College of Health  
B. Course Subject    Human Services  
C. Course Number    A334  
D. Number of Credits    3.0  
E. Contact Hours    (3+0)  
F. Course Program    Bachelors Degree in Human Services  
G. Course Title    Family Mediation  
H. Grading Basis    A-F  
I. Implementation Date    Fall, 2014  
J. Cross-listed/Stacked    N/A  
K. Course Description    Trains students in advanced mediation skills for resolving family conflict. Different models of mediation are presented, evaluated, and practiced. Current issues in mediation with families living in Alaska are covered including the impact of trauma on the family.  
L. Course Prerequisites    HUMS A333 with a grade C or better.  
M. Test Scores    N/A  
N. Course Co-Requisite    N/A  
O. Other Restrictions    N/A  
P. Registration Restrictions    Admitted to the Bachelor of Human Services Degree or with departmental approval.  
Q. Course Fees    N/A  

III. Instructional Goals and Student Learning Outcomes  
A. The instructor will:  
   1. Expand knowledge of interpersonal conflict and its theoretical social constructionist underpinnings.  
   2. Introduce different models of the mediation process.  
   3. Examine the substantive issues of family mediation.  
   4. Expand knowledge of mediation services for families of Alaska.  
B. Upon completion of this course, the student will be able to:  

<table>
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<th>Student Learning Outcomes</th>
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</table>
| 1. Compare and apply premises, theories, and models of mediation. | Class discussion  
Small group activities |
| 2. Analyze different types of family conflicts. | Class discussion  
Case analysis |
| 3. Examine mediation in cultural specific and legal frameworks within Alaska. | Class discussion  
Written assignments |
| 4. Demonstrate mediation skills. | Class discussion  
Small group activities  
Role plays |
### Student Learning Outcomes and Assessment Measures

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<th>Student Learning Outcomes</th>
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| 5. Analyze dynamics of multi-party disputes. | Class discussion  
Small group activities |
| 6. Explore issues of family violence, trauma and mediation. | Written assignments  
Class discussion  
Small group activities |
| 7. Identify ethical mediation practices. | Class discussion  
Small group activities  
Role plays |
| 8. Engage in communication and mediation skills. | Class discussion  
Small group activities  
Role plays |
| 9. Identify and manage issues of power. | Class discussion  
Small group activities |

### IV. Course Level Justification

This is an intermediate course that builds upon previous course work and requires familiarity with the concepts, methods, and vocabulary of the discipline. The course requires mediation role-play experience. It is a requirement for an existing non-degree transcripted occupational endorsement certificate offered by the Department of Human Services. Its purpose is to provide a theoretical and practical background in family conflict, as well as practice and refine students’ mediation skills.

### V. Topical Course Outline

1.0 Safety: General Campus Safety

2.0 Understanding Family Dynamics
   2.1 Assessing the family from the systemic view
   2.2 Basic tenets of family systems theory
   2.3 The change process from a family systems perspective
   2.4 Normalcy, health, and dysfunction
   2.5 Dynamics of personal and family development
   2.6 Alliances, legacies, and secrets
   2.7 Resilience and the current dilemma

3.0 Understanding Family Conflict
   3.1 Multiple levels of family conflicts
   3.2 Conflict emergence and intervention
   3.3 Analyzing family conflicts
   3.4 Reaction to conflict: Anger, indignation, and aggression

4.0 Family Mediation Models and Approaches
   4.1 Stage theory models
   4.2 Problem solving and negotiation approaches
   4.3 Procedural models

5.0 Family Mediation Skills and Techniques
   5.1 Case assessment and formulation
   5.2 Shaping client sessions for effectiveness
   5.3 Mediating with multiple family members
5.4 Transforming impasses

6.0 Special Case Issues
   6.1 Control, abuse, violence, and trauma
   6.2 Mental health concerns
   6.3 Reporting child abuse and neglect
   6.4 Framing agreements for special case issues

7.0 Ethics and Standards, Confidentiality and Privilege
   7.1 Ethics and standards
   7.2 Confidentiality and privileged communication

8.0 Cultural Issues in Family Mediation
   8.1 Family culture
   8.2 Assessment of cultural factors
   8.3 Identity, adaptation, and assimilation
   8.4 African American families in mediation
   8.5 Hispanic cultural themes
   8.6 Asian perspectives
   8.7 Gay and lesbian families
   8.8 Ethics and practice standards for cultural issues
   8.9 Issues effecting Alaskan families

9.0 Interfacing with Other Professionals and Parties
   9.1 Continuity of care continuation
   9.2 Involving children and other parties
   9.3 Working with advocates and attorneys
   9.4 Individual and marital therapists

10.0 Marital Mediation, Conciliation, and Prenuptial Agreements
    10.1 Conciliation: Mediating the problems of staying together
    10.2 Marital mediation assessment
    10.3 Themes of attachment, love, and trust
    10.4 Defining the relationship by agreement
    10.5 Creating appropriate consequences
    10.6 Prenuptial agreement: More than money

11.0 Divorce Mediation
    11.1 The divorce mediator’s role
    11.2 Mandatory and voluntary mediation
    11.3 Married versus unmarried separations
    11.4 Complete divorces or parenting issues only
    11.5 Describing a case using interactive model
    11.6 Integrating children into the process
    11.7 Post-divorce concerns and modifications

12.0 Parent-Teen Mediation
    12.1 Service provision considerations
    12.2 Power dynamics during sessions
    12.3 Speaking naturally
    12.4 Practice dimensions
12.5 Classic parent-teen mediation
12.6 Sequential family mediations

13.0 Adoption, Abuse, and Placement Cases
13.1 Fitting the model to the situation
13.2 Confidentiality and privileged communications
13.3 Power dynamics in placement cases
13.4 Child protection in placement cases
13.5 Adoption

14.0 Elder Care and Family Medical Concerns
14.1 Medical disputes for elders and ill and disabled people
14.2 Issues of the elder population
14.3 Power issues in medical disputes concerning elders
14.4 Mediating family medical issues
14.5 Mediating adult guardianship
14.6 Out of home placement for an aging parent
14.7 Placement and medical treatment dilemmas
14.8 Post-procedure medical complaints
14.9 Adult guardianship

VI. Suggested Texts


VII. Bibliography and Resources


Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

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<th>13a. Impacted Courses or Programs:</th>
<th>13b. Coordination Email</th>
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<tr>
<td>List any programs or college requirements that require this course.</td>
<td>Date: 9/30/13 submitted to Faculty Listserv: (<a href="mailto:uaa-faculty@lists.uaa.alaska.edu">uaa-faculty@lists.uaa.alaska.edu</a>)</td>
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<th>14. General Education Requirement</th>
<th>15. Course Description (suggested length 20 to 50 words)</th>
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<td>Examines the historical, cultural, and psychosocial, perspectives of masculinity and male sex roles with a focus upon males in a human services setting emphasizing family, work, sexuality and mental and physical health issues.</td>
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<th>16b. Co-requisite(s) (concurrent enrollment required)</th>
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<th>19. Justification for Action</th>
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<td>Updating curriculum to meet the revised Council for Standards in Human Service Education standards.</td>
<td>Initiation (if applicable): Ira Rosnel</td>
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<td>Ira Rosnel</td>
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I. Date of Initiation
Fall, 2013

II. Curriculum Action Request
A. College College of Health
B. Course Subject Human Services
C. Course Number HUMS A350
D. Number of Credits 3.0
E. Contact Hours 3+0
F. Course Program Bachelors Degree in Human Services
G. Course Title Men and Masculinity
H. Grading Basis A-F
I. Implementation Date Spring, 2014
J. Cross-listed/Stacked N/A
K. Course Description Examines the historical, cultural, and psychosocial, perspectives of masculinity and male sex roles with a focus upon males in a human services setting emphasizing family, work, sexuality and mental and physical health issues.
L. Course Prerequisites N/A
M. Test Scores N/A
N. Course Co-Requisite N/A
O. Other Restrictions Major
P. Registration Restrictions Admitted to the Bachelor of Human Services Degree
Q. Course Fees N/A

III. Instructional Goals and Student Learning Outcomes
A. The instructor will:
   1. Present students with the historical, cultural and psychosocial dynamics of masculinity.
   2. Provide students with an understanding of male dynamics and destructive behaviors and theories.
   3. Distinguish between different intervention and treatment approaches for violence.
   4. Facilitate awareness of the different approaches to prevention of destructive and/or dysfunctional behaviors.
   5. Examine the hardship men’s destructive behaviors can have on women, children, families, and society.
   6. Discuss statistical data on male ethnicity and culture in American prisons.
   7. Provide an understanding of how sex roles are changing in America and the world.

B. Upon completion of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
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<tbody>
<tr>
<td>1. Discuss historical,</td>
<td>Class discussion</td>
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<td>cultural and psychosocial</td>
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<tr>
<td>dynamics of masculinity.</td>
<td>Written assignment</td>
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<td>2. Analyze theories of</td>
<td>Case study scenarios</td>
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<td>contributing factors in</td>
<td></td>
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<tr>
<td>the dynamics of</td>
<td>Class discussion</td>
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<td>destructive behaviors</td>
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<td>among men.</td>
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<td>3. Compare the trends in</td>
<td>Group assignment</td>
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<td>sexual assault, domestic</td>
<td>Discussion</td>
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<td>violence and victim</td>
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<td>offending.</td>
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<td>Student Learning Outcomes</td>
<td>Assessment Measures</td>
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<td>4. Apply intervention approaches and strategies for violence prevention.</td>
<td>Written assignment</td>
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<td>Role play</td>
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<td>5. Analyze the causal factors associated with the disproportionately high percentage of</td>
<td>Written assignment</td>
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<td>destructive behavior among men in comparison to women.</td>
<td>Class discussion</td>
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<td>6. Identify the changing role of men in society.</td>
<td>Class discussion</td>
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<td>7. Examine homosexuality and masculinity.</td>
<td>Class discussion</td>
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<td>8. Explore the relationship between masculinity and risk taking behaviors and disability</td>
<td>Written assignment</td>
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<td>and death.</td>
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IV. Course Level Justification
The course builds upon previous course work received in an accredited associate degree program and requires familiarity with the concepts, methods, and vocabulary of the human services discipline.

V. Topical Course Outline
1.0 Historical Overview of the Meaning(s) of Masculinity and Evolving Male Sex Roles
   1.1 Definitions of masculinity and male sex roles
   1.2 Cross-cultural perspectives on male sex roles and masculinity
   1.3 Western society and patriarchal traditions
   1.4 Expectations of masculine behavior and sex roles in North America

2.0 Biological Factors
   2.1 Genetic and cultural factors that contribute to male behavior and perceptions of masculinity

3.0 Men, Masculinity and Destructive Behavior
   3.1 Patterns of dysfunctional behaviors
   3.2 Acts of violence
   3.3 Sexual assault
   3.4 Suicide
   3.5 Polysubstance abuse
   3.6 Relationship (hetero and homosexual) problems
   3.7 Risk taking behaviors

4.0 Social Influences
   4.1 Family
   4.2 Sports
   4.3 Economy
   4.4 Politics

5.0 Interventions and Best-Practice Treatment in Working with Males
   5.1 Theories
   5.2 Men as human services clients
   5.3 Working with men in a group setting

6.0 Prevention: Structural and Institutional Change
   6.1 Sexism and its effect on men
   6.2 Institutions as a vehicle for change
VI. Suggested Texts

VII. Bibliography and Resources


<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>CH College of Health</th>
<th>1b. Division</th>
<th>ADHS Div of Human Svcs Health Sci</th>
<th>1c. Department</th>
<th>Human Services</th>
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<td>Quantitative Skills</td>
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<td>Natural Sciences</td>
<td>Integrative Capstone</td>
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<td>Date:</td>
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<td>Initiator Signed Initials:</td>
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<td>33. Justification for Action</td>
<td>Updating curriculum to meet the revised Council for Standards in Human Service Education standards.</td>
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I. Date of Initiation
Fall, 2013

II. Curriculum Action Request
A. College College of Health
B. Course Subject Human Services
C. Course Number HUMS A351
D. Number of Credits 3.0
E. Contact Hours 3+0
F. Course Program Bachelor Degree in Human Services
G. Course Title Career Development for Human Services Professionals
H. Grading Basis A-F
I. Implementation Date Fall, 2014
J. Cross-listed/Stacked N/A
K. Course Description Presents the theoretical foundations associated with career development counseling in a human services setting. Examines developmental stages associated with career development, career clusters, labor market information and assessment tools.
L. Course Prerequisites Admitted to the BHS program
M. Test Scores N/A
N. Course Co-requisites N/A
O. Other Restrictions Major
P. Registration restrictions Admitted to the Bachelor of Human Services Degree
Q. Lab Fees N/A

III. Instructional Goals and Student Learning Outcomes
A. The instructor will:
   1. Discuss theoretical foundations associated with career development: trait-factor, developmental and cognitive frameworks.
   2. Present Holland’s theory of vocational choice and adjustment.
   3. Analyze ethical and legal issues associated with career development practices.
   4. Demonstrate career counseling skills and techniques: assessment/appraisal, information technology, and career development planning.
   5. Differentiate among: K-6, 9-12, and collegiate career development approaches and techniques.
   6. Explore career development for clients experiencing disabilities.

B. Upon completion of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Student Learning Outcomes and Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Learning Outcomes</strong></td>
</tr>
<tr>
<td>1. Differentiate among trait-factor, developmental and cognitive approaches to career development.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>2. Define and discuss Holland’s theory of vocational choice and adjustment.</td>
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## Student Learning Outcomes and Assessment Measures

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
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</thead>
<tbody>
<tr>
<td>3. Identify legal and ethical issues associated with career development.</td>
<td>Case study associated with written assignment</td>
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<tr>
<td>4. Demonstrate career development skills of: assessment, appraisal, information technology and career development planning.</td>
<td>Small group role-plays associated with written assignment</td>
</tr>
<tr>
<td>5. Differentiate among: K-6, 9-12, and collegiate career development approaches and techniques.</td>
<td>Small group discussion associated with written assignment</td>
</tr>
<tr>
<td>6. Analyze career development skills appropriate for individuals experiencing mental illness and/or disabilities.</td>
<td>Written assignment</td>
</tr>
</tbody>
</table>

### IV. Course Level Justification
This course is a selective course for the BHS degree. The curriculum assists students in analyzing different facets of career development counseling in a human services setting.

### V. Topical Course Outline

1. **Safety**
   1.1 General campus safety
   1.2 Building evacuation procedures
   1.3 Specific agency precautions

2. **Theoretical Overview of Career Development**
   2.1 Define career development
   2.2 Trait-factor, developmental and cognitive frameworks
   2.3 Holland’s theory of career choice and adjustment

3. **Legal and Ethical Issues Associated with Career Development Practices**
   3.1 Equal Employment Opportunity Act
   3.2 American’s with Disabilities Act
   3.3 Discriminatory practices
   3.4 Confidentiality

4. **Career Development Skills**
   4.1 Assessment/appraisal
   4.2 Information technology
   4.3 Career development planning

5. **K-6, 9-12 and Collegiate Career Development Approaches.**
   5.1 Developmental considerations
   5.2 Information and interest assessment

6. **Career development for clients experiencing disabilities.**
   6.1 Job coaching
   6.2 Adaptive technology
VI. Suggested Text

VII. Bibliography and Resources


Course Action Request  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
<th>1a. School or College</th>
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<th>1c. Department</th>
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<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours (Lecture + Lab)</th>
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<td>A352</td>
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<tr>
<th>6. Complete Course Title</th>
<th>7. Type of Course</th>
<th>8. Type of Action:</th>
<th>9. Repeat Status No</th>
<th>10. Grading Basis</th>
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<td>Add or Change or Delete</td>
<td># of Repeats</td>
<td>A-F</td>
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If a change, mark appropriate boxes:
- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Other Restrictions
  - Class
  - Level
  - College
  - Major
- Other

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<th>11. Implementation Date</th>
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<td>From: Fall/2014</td>
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</tr>
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<td>Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at <a href="http://www.uaa.alaska.edu/governance">www.uaa.alaska.edu/governance</a>.</td>
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Initiator Name (typed): Laura Kelley
Initiator Signed Initials: _________
Date: __________

13b. Coordination Email: 10/7/13 submitted to Faculty Listserv: uaa-faculty@lists.uga.alaska.edu
13c. Coordination with Library Liaison Date: 10/7/13

14. General Education Requirement
Mark appropriate box:
- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

15. Course Description (suggested length 20 to 50 words)
Presents essential administrative approaches and skills associated with Human Services agency management. Topics include leadership, evaluation, program planning, and financial management.

16a. Course Prerequisite(s) (list prefix and number or test code and score)
16b. Co-requisite(s) (concurrent enrollment required)
N/A

16c. Other Restriction(s)
- College
- Major
- Class
- Level

16d. Registration Restriction(s) (non-codable)
Admitted to the Bachelor of Human Services Degree

17. Mark if course has fees

18. Mark if course is a selected topic course

19. Justification for Action
Updating curriculum to meet the revised Council for Standards in Human Service Education standards.

Initiator (faculty only):  
Laura Kelley
Initiator (TYPE NAME)  

[Approved/Disapproved]  
Date  
Dean/Director of School/College  
Date

[Approved/Disapproved]  
Department Chair  
Date  
Undergraduate/Graduate Academic  
Date

[Approved/Disapproved]  
Board Chair  
Date

[Approved/Disapproved]  
Provost or Designee  
Date
University of Alaska Anchorage
College of Health
Course Content Guide

I. Date of Initiation
Fall, 2013

II. Curriculum Action Request
A. College College of Health
B. Course Subject Human Services
C. Course Number A352
D. Number of Credits 3.0
E. Contact Hours (3+0)
F. Course Program Bachelors Degree in Human Services
G. Course Title Human Services Administration
H. Grading Basis A-F
I. Implementation Date Fall, 2014
J. Cross-listed/Stacked N/A
K. Course Description Presents essential administrative approaches and skills associated with human services agency management. Topics include leadership, evaluation, program planning, and financial management.

L. Course Prerequisites N/A
M. Test Scores N/A
N. Course Co-Requisite N/A
O. Other Restrictions Major
P. Registration Restrictions Admitted to the Bachelor of Human Services Degree
Q. Course Fees N/A

III. Instructional Goals and Student Learning Outcomes
A. The instructor will:
   1. Present types, purposes and functions of contemporary human services agencies.
   2. Identify management challenges in human services delivery.
   3. Explore the human services environment from community, national and global perspectives.
   4. Examine leadership styles in relation to human services management, transition and change.
   5. Provide strategies for evaluating, planning and program design.
   6. Link financial management concepts within the context of meeting agency goals.

B. Upon completion of this course, the student will be able to:

<table>
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<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
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<tbody>
<tr>
<td>1. Compare types, purposes and functions of contemporary human services agencies.</td>
<td>Class discussion Small group activities</td>
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<tr>
<td>2. Discuss human services from community, national and global perspectives.</td>
<td>Class discussion Written assignment</td>
</tr>
<tr>
<td>3. Analyze contemporary management challenges in human services.</td>
<td>Class discussion Written assignments</td>
</tr>
<tr>
<td>4. Examine environmental factors effecting human services agencies.</td>
<td>Class discussion Written assignment</td>
</tr>
<tr>
<td>Student Learning Outcomes</td>
<td>Assessment Measures</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------------</td>
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</table>
| 5. Distinguish leadership styles from the perspective of management, transition, and change in human services. | Class discussion  
Small group activities  
Written assignment |
| 6. Distinguish strategies for program evaluation, planning and design. | Small group activities  
Written assignment |
| 7. Examine the role of financial management in contemporary human services administration. | Class discussion  
Written assignment |

IV. Course Level Justification
This course builds upon previous course work, requires students to have been admitted to the BHS program and to have familiarity with the concepts, methods and vocabulary of the discipline. Students examine administrative approaches and skills associated with agency management. The course requires the ability to analyze, synthesize, compare, elaborate, and apply course materials to solving complex problems.

V. Topical Course Outline
1.0 Safety: General Campus Safety

2.0 Types, Purposes and Functions of Contemporary Human Services Agencies
   2.1 Public sector human services agencies
   2.2 Private sector human services agencies
   2.3 Faith-based human services agencies
   2.4 Functions and purposes of human services agencies.
   2.5 Human services from community, national and global perspectives

3.0 Management Challenges in Contemporary Human Services Agencies
   3.1 Planning
   3.2 Program design
   3.3 Human resources
   3.4 Supervision
   3.5 Program evaluation

4.0 Human Services Environmental Factors
   4.1 Identification of stakeholders
   4.2 Conducting needs assessments
   4.3 Collaboration
   4.4 Funding sources

5.0 Leadership Models
   5.1 Traits
   5.2 Competency
   5.3 Contingency
   5.4 Charismatic
   5.5 Transactional
   5.6 Exemplary
   5.7 Visionary
   5.8 Servant/leadership
6.0 Program Evaluation
  6.1 Purpose
  6.2 Methods/strategies
  6.3 Analysis
  6.4 Planning

7.0 Financial Management
  7.1 Acquiring resources
  7.2 Budgeting
  7.2 Financial reporting

VI. Suggested Text

VII. Bibliography and Resources


### Course Action Request

**University of Alaska Anchorage**

Proposal to Initiate, Add, Change, or Delete a Course

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13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

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<th>Chair/Coordinator Contacted</th>
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<td>9/30/13</td>
<td>Laura Kelley</td>
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<tr>
<td>3.</td>
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Initiator Name (typed): **Lynn Paterna**  
Initiator Signed Initials: ___________  
Date: __________________

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13c. Coordination with Library Liaison  
Date: 9/30/13

14. General Education Requirement  
Mark appropriate box:  
- Oral Communication  
- Written Communication  
- Quantitative Skills  
- Humanities  
- Fine Arts  
- Social Sciences  
- Natural Sciences  
- Integrative Capstone

15. Course Description (suggested length 20 to 50 words)  
Examines ethical issues in human services practice defined in the National Organization of Human Services (NOHS) Ethical Code.  
Topics include client rights, confidentiality, and worker responsibility for ethical behavior in human services practice.

16a. Course Prerequisite(s) (list prefix and number or test code and score)  
N/A

16b. Co-requisite(s) (concurrent enrollment required)  
N/A

16c. Other Restriction(s)  
- College (X)  
- Major  
- Class (X)  
- Level (X)

16d. Registration Restriction(s) (non-codable)  
Admitted to the Bachelor of Human Services degree

17. Mark if course has fees

18. Mark if course is a selected topic course

19. Justification for Action  
Updating curriculum to meet the revised Council for Standards in Human Service Education standards.

Initiator (faculty only): **Lynn Paterna**  
Initiator (TYPE NAME): ___________  
Date: __________________

Initiator (faculty only)  
Initiator (TYPE NAME): ___________  
Date: __________________

Approved  
Disapproved

Dean/Director of School/College  
Date: __________________

Approved  
Disapproved

Undergraduate/Graduate Academic  
Date: __________________

Approved  
Disapproved

Board Chair  
Date: __________________

Approved  
Disapproved

Provost or Designee  
Date: __________________

Approved  
Disapproved

118
I. Date of Initiation
   Fall, 2013

II. Curriculum Action Request
   A. College          College of Health
   B. Course Subject   Humans Services
   C. Course Number    HUMS A412
   D. Number of Credits 3.0
   E. Contact Hours 3+0
   F. Course Program Bachelors Degree in Human Services
   G. Course Title Ethical Issues in Human Services Practice
   H. Grading Basis A-F
   I. Implementation Date Fall, 2014
   J. Cross-listed/Stacked N/A
   K. Course Description Examines ethical issues in human services practice defined in
      the National Organization of Human Services (NOHS) Ethical
      Code. Topics include client rights, confidentiality, and worker
      responsibility for ethical behavior in human services practice.
   L. Course Prerequisites N/A
   M. Test Scores N/A
   N. Course Co-Requisite N/A
   O. Other Restrictions Major
   P. Registration Restrictions Admitted to the Bachelor of Human Services Degree
   Q. Course Fees N/A

III. Instructional Goals and Student Learning Outcomes
   A. The instructor will:
      1. Explore and analyze the use of the NOHS Ethical Code as a guide to ethical decision
         making in service delivery.
      2. Facilitate assessment of attitudes, values, and beliefs surrounding professional and ethical
         issues.
      3. Present case examples focused upon ethical and legal issues associated with confidentiality,
         professional competency and responsibility to include trauma awareness from an ethical
         perspective.
      4. Apply ethical issues related to group, community work, boundaries, multiple relationships,
         client rights, and diversity.
      5. Explain multicultural perspectives and diversity issues related to the NOHS Ethical Code.
   B. Upon completion of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Student Learning Outcomes and Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Learning Outcomes</td>
</tr>
<tr>
<td>----------------------------</td>
</tr>
<tr>
<td>1. Demonstrate the steps in making ethical decisions using the NOHS Ethical Code.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>2. Conduct self-assessment of attitudes, values, and beliefs related to the NOHS Ethical Code.</td>
</tr>
</tbody>
</table>
### Student Learning Outcomes and Assessment Measures

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Determine the skills for managing boundaries, multiple relationships, groups, community work, and client rights.</td>
<td>Role play, Case studies</td>
</tr>
<tr>
<td>4. Analyze case examples concerning ethical and legal issues in confidentiality, professional competency and responsibility.</td>
<td>Case analysis, Class discussion, Written paper</td>
</tr>
<tr>
<td>5. Identify multicultural perspectives and diversity issues.</td>
<td>Case analysis, Written paper</td>
</tr>
</tbody>
</table>

### IV. Course Level Justification

This is a required course for the Bachelor of Human Services degree and is designed to integrate the National Organization for Human Services Ethical Code into human services practice. This course requires the ability to analyze, synthesize, compare and contrast, elaborate, and apply course materials to solving complex problems. This course builds upon the lower level human services curriculum introduced in the AAS program.

### V. Topical Course Outline

1.0 Introduction to Professional Ethics
   1.1 National Organization for Human Services Ethical Code
   1.2 Ethical decision making
   1.3 NOHS processes associated with unethical behavior in human services practice
   1.4 Self-assessment: Inventory of attitudes and beliefs about ethical and professional issues

2.0 Human Services Worker as a Person and as a Professional
   2.1 Client dependence
   2.2 Trauma awareness
   2.3 Stress in the human services profession
   2.4 Burnout and impairment
   2.5 Maintaining vitality through self-care

3.0 Values and the Helping Relationship
   3.1 Clarifying values and their role in the human services work
   3.2 Ethics of imposing values on clients

4.0 Multicultural Perspectives and Diversity Issues
   4.1 Challenges of reaching diverse client populations
   4.2 Ethical codes from a diversity prospective
   4.3 Cultural values and assumptions in human services work

5.0 Client Rights and Human Services Worker Responsibilities
   5.1 Clients right to give informed consent
   5.2 Professional responsibilities and record keeping
   5.3 Involuntary commitment and human rights
   5.4 Malpractice liability in the helping professions
6.0 Confidentiality: Ethical and legal issues
   6.1 Confidentiality, privileged communication and privacy
   6.2 Duty to warn and protect
   6.3 Health Insurance Privacy and Portibility Act (HIPPA) and mental health providers
   6.4 Protecting children, elderly, and dependent adults from harm

7.0 Managing Boundaries and Multiple Relationships
   7.1 Ethics of multiple relationships
   7.2 Controversies on boundary issues
   7.3 Managing multiple relationship in a small community
   7.4 Social relationships with clients
   7.5 Ethical and legal issues with sexual relationships with clients
   7.6 Giving or receiving gifts and bartering for professional services

8.0 Professional Competence and Training
   8.1 Ethical and legal aspects: Professional competence
   8.2 Evaluation of knowledge, skills, and personal functioning
   8.3 Professional licensing and credentialing
   8.4 Continuing professional education and demonstration of competence

9.0 Issues in Supervision and Consultation
   9.1 Ethical issues in clinical supervising
   9.2 The supervisor’s roles and responsibilities
   9.3 Multiple roles and relationships in the supervisory process
   9.4 Ethical issues in consultation

10.0 Ethical Issues in Group Work
    10.1 Ethical issues in forming and managing groups
    10.2 Confidentiality in groups
    10.3 Ethics in use of group techniques
    10.4 Ethical issues concerning termination

11.0 Ethical Issues in Community Work
    11.1 Ethical practice in community work
    11.2 Community mental health orientation
    11.3 Roles of helpers working in the community
    11.4 Working in the system
    11.5 Promoting change in the community

VI. Suggested Texts


VII. Bibliography and Resources


## Course Action Request
### University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

### 1a. School or College
CH College of Health

### 1b. Division
ADHS Div of Human Svcs Health Sci

### 1c. Department
Human Services

### 2. Course Prefix
HUMS

### 3. Course Number
A414

### 4. Previous Course Prefix & Number
N/A

### 5a. Credits/CEUs
3.0

### 5b. Contact Hours
(3+0)

### 6. Complete Course Title
Advanced Case Management for Human Services Professionals

### Abbreviated Title for Transcript (30 character)
Advanced Case Mgt for HUMS Pro

### 7. Type of Course
☒ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development

### 8. Type of Action:
☐ Add  ☒ Change  ☐ Delete

### 9. Repeat Status No  # of Repeats  Max Credits

### 10. Grading Basis
☒ A-F  ☐ P/NP  ☐ NG

### 11. Implementation Date
From: Fall/2014  To: 9999

### 12. Cross Listed with
N/A

### 13a. Impacted Courses or Programs: List any programs or college requirements that require this course.
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.aaa.alaska.edu/governance](http://www.aaa.alaska.edu/governance).

### Impacted Program/Course
Date of Coordination Chair/Coordinator Contacted
1. Bachelors degree in Human Services 9/30/13 Laura Kelley
2. 3.

Initiator Name (typed): Ira Rosnel
Initiator Signed Initials: ___________ Date: ___________

### 13b. Coordination Email Date: 9/30/13
submitted to Faculty Listserv: [uaa-faculty@lists.aaa.alaska.edu](mailto:uaa-faculty@lists.aaa.alaska.edu)

### 13c. Coordination with Library Liaison
Date: 9/30/13

### 14. General Education Requirement
Mark appropriate box:
- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

### 15. Course Description (suggested length 20 to 50 words)
Broadens the perspective of the advanced student in defining and implementing case management concepts. Examines the relatedness of human services delivery programs. Specific skills linking client assessment, treatment planning, and evaluation are distinguished. Skills designed to assist clients in understanding and accessing services are also examined.

### 16a. Course Prerequisite(s) (list prefix and number or test code and score)
HUMS A322 with a grade C or better

### 16b. Co-requisite(s) (concurrent enrollment required)
N/A

### 16c. Other Restriction(s)
☐ College  ☒ Major  ☐ Class  ☐ Level

### 16d. Registration Restriction(s) (non-codable)
Admitted to the Bachelor of Human Services Degree

### 17. Mark if course has fees
☐ 18. Mark if course is a selected topic course
☐

### 19. Justification for Action
Updating curriculum to meet the revised Council for Standards in Human Service Education standards.

Initiator (faculty only) Ira Rosnel
Initiator (TYPE NAME) _________ Date: ___________

[Approval]$$
☐ Approved  ☐ Disapproved
Dean/Director of School/College Date

[Approval]$$
☐ Approved  ☐ Disapproved
Undergraduate/Graduate Academic Board Chair Date

[Approval]$$
☐ Approved  ☐ Disapproved
Provost or Designee Date

[Approval]$$
☐ Approved  ☐ Disapproved
Department Chair Date

[Approval]$$
☐ Approved  ☐ Disapproved
College/School Curriculum Committee Chair Date
University of Alaska Anchorage  
College of Health  
Course Content Guide

I. Date of Initiation  
Fall, 2013

II. Curriculum Action Request
A. College  
College of Health
B. Course Subject  
Human Services
C. Course Number  
HUMS A414
D. Number of Credits  
3.0
E. Contact Hours  
3+0
F. Course Program  
Bachelors Degree in Human Services
G. Course Title  
Advanced Case Management for Human Services Professionals
H. Grading Basis  
A-F
I. Implementation Date  
Fall, 2014
J. Cross-listed/Stacked  
N/A
K. Course Description:  
Broadens the perspective of the advanced student in defining and implementing case management concepts. Examines the relatedness of human services delivery programs. Specific skills linking client assessment, treatment planning, and evaluation are distinguished. Skills designed to assist clients in understanding and accessing services are also examined.

L. Course Prerequisites  
HUMS A322 with a grade C or better
M. Test Scores  
N/A
N. Course Co-Requisite  
N/A
O. Other Restrictions  
Major
P. Registration Restrictions  
Admitted to the Bachelor of Human Services Degree
Q. Course Fees  
N/A

III. Instructional Goals and Student Learning Outcomes
A. The instructor will:
   1. Discuss the constructivist, narrative, social, stages of change, and trauma theories and how they relate to client/helper decision making.
   2. Review the Human Services Code of Ethics in detail.
   3. Illustrate how ethical dilemmas can impact service delivery.
   4. Provide the foundation for understanding culture, ethnicity, disability, and environmental factors (climate change) that can impact service delivery.
   5. Examine the legal aspect of case management.
   6. Present simulated case studies to illustrate case management techniques with special populations.

B. Upon completion of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Student Learning Outcomes and Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Learning Outcomes</strong></td>
</tr>
</tbody>
</table>
| 1. Analyze case scenario and client record issues that are key to the management of the case based on theoretical and applied perspectives. | Roles play  
  Written assignment |
| 2. Give examples of ethical dilemmas and their potential impact and application of case management practices. | Discussion  
  Written assignment |
<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Review a case simulation that has significant cultural aspects which may influence case management decisions.</td>
<td>Written assignment</td>
</tr>
<tr>
<td>4. Compare selected pieces of legislation to analyze incentives or disincentives to decision making and the effect on case management.</td>
<td>Discussion Written assignment</td>
</tr>
<tr>
<td>5. Examine different interviewing techniques that could impact the case management process.</td>
<td>Discussion</td>
</tr>
<tr>
<td>6. Develop strategies to address the challenges associated with providing client services to unique populations in both urban and rural settings.</td>
<td>Written assignment</td>
</tr>
</tbody>
</table>

IV. Course Level Justification
The course significantly expands the student’s knowledge of the legal, ethical and cultural aspects of case management. The course requires the ability to demonstrate higher level thinking skills and to solve complex problems. The course builds on previous courses from the human services discipline.

V. Topical Course Outline
1.0 University Safety Procedure - Campus Safety

2.0 Foundations of Critical Thinking
   2.1 Assumptions and concepts
   2.2 Examining the source of information
   2.3 Discussing how information is gathered
   2.4 Open-minded inquiry

3.0 Theoretical Orientations
   3.1 Constructivist theory
   3.2 Narrative theory
   3.3 Social theory
   3.4 Stages of change
   3.5 Trauma theory

4.0 Examining Legal and Ethical Issues in Human Services Systems that impact Case Management
   4.1 Social security disability
   4.2 Supplemental security income
   4.3 Workers compensation
   4.4 The Veteran’s Administration
   4.5 Other

5.0 Communication Skills
   5.1 Verbal and nonverbal skills to develop a collaborative relationship
   5.2 Challenging clients to help facilitate change
   5.3 Helping clients to identify issues that will make a difference in their lives
   5.4 Examine how the helper’s biases can impact case management
6.0 Working with Diverse Populations
   6.1 Disabilities
   6.2 Offenders
   6.3 Veterans
   6.4 Indigenous people
   6.5 Immigrants and refugees
   6.6 Minorities

7.0 Client Assessment and Plan
   7.1 Developing a client-center approach to information gathering
   7.2 Various ways of gathering information
   7.3 Collecting only information relating an agency’s mission
   7.4 Other factors that can impact case management outcomes
      7.4.1 Climate change
      7.4.2 Trauma

VI. Suggested Text

VII. Bibliography


Course Action Request  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH College of Health</td>
<td>ADHS Div of Human Svs Health Sci</td>
<td>Human Services</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours (Lecture + Lab)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMS</td>
<td>A415</td>
<td>N/A</td>
<td>3.0</td>
<td>(3+0)</td>
</tr>
</tbody>
</table>

6. Complete Course Title  
Advanced Human Services Systems  
Abbreviated Title for Transcript (30 character)

<table>
<thead>
<tr>
<th>7. Type of Course</th>
<th>8. Type of Action:</th>
<th>9. Repeat Status No</th>
<th># of Repeats</th>
<th>Max Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Add</td>
<td></td>
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</tbody>
</table>

If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Other Restrictions
- Class
- Level
- College
- (please specify)

10. Grading Basis:  
A-F  
P/NP  
NG

11. Implementation Date  
From: Fall/2014  
To: 9/999

12. Cross Listed with:  
N/A

13a. Impacted Courses or Programs:  
List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.aaa.alaska.edu/governance](http://www.aaa.alaska.edu/governance).

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<tr>
<td>2.</td>
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<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Initiator Name (typed): Lynn Paterna  
Initiator Signed Initials: _________  
Date:________________

13b. Coordination Email  
Date: 9/30/13  
submitted to Faculty Listserv: [uaa-faculty@lists.aaa.alaska.edu](mailto:uaa-faculty@lists.aaa.alaska.edu)

13c. Coordination with Library Liaison  
Date: 9/30/13

14. General Education Requirement  
Mark appropriate box:

- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

15. Course Description (suggested length 20 to 50 words)  
Examines the influence of governmental, economy legislation, public policy, and funding sources upon human services agencies including strategies associated with inter and intra-agency collaboration. By embracing a systems approach, examining historical, and contemporary systems influencing service delivery, the critical framework for supportive services delivery is provided and discussed.

16a. Course Prerequisite(s) (list prefix and number or test code and score)  
N/A

16b. Co-requisite(s) (concurrent enrollment required)  

16c. Other Restriction(s)  
College  Major  Class  Level

16d. Registration Restriction(s) (non-codable)  
Admitted to the Bachelor of Human Services Degree

17. Mark if course has fees

18. Mark if course is a selected topic course

19. Justification for Action  
Updating curriculum to meet the revised Council for Standards in Human Service Education standards.

Initiator (faculty only)  
Lynn Paterna  
Initiator (TYPE NAME)

Approved  
Disapproved  
Dean/Director of School/College  
Date

Approved  
Disapproved  
Undergraduate/Graduate Academic  
Date

Approved  
Disapproved  
Board Chair  
Date

Approved  
Disapproved  
Provost or Designee  
Date
I. Date of Initiation
   Fall, 2013

II. Curriculum Action Request
A. College       College of Health
B. Course Subject Human Services
C. Course Number HUMS A415
D. Number of Credits 3.0
E. Contact Hours 3+0
F. Course Program Bachelors Degree in Humans Services
G. Course Title Advanced Human Services Systems
H. Grading Basis A-F
I. Implementation Date Fall, 2014
J. Cross-listed/Stacked N/A
K. Course Description Examine the influence of governmental, economy legislation, public policy, and funding sources upon human services agencies including strategies associated with inter and intra-agency collaboration. By embracing a systems approach, examining historical, and contemporary systems influencing service delivery, the critical framework for supportive services delivery is provided and discussed.

L. Course Prerequisites N/A
M. Test Scores N/A
N. Course Co-Requisite N/A
O. Other Restrictions Major
P. Registration Restrictions Admitted to the Bachelor of Human Services Degree
Q. Course Fees N/A

III. Instructional Goals and Student Outcomes
A. The instructor will:
   1. Examine systems and organizational theories as they relate to human services delivery.
   2. Present financial systems that affect human services systems.
   3. Discuss theoretical systemic problems in human services.
   4. Provide information about current systemic problems facing human services delivery.
   5. Identify agents of change that improve or hinder human services delivery.
   6. Present the crisis in the human services delivery systems.
   7. Explore parallel processes in trauma-organized systems.

B. Upon completion of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Student Learning Outcomes and Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Learning Outcomes</strong></td>
</tr>
<tr>
<td>1. Apply the concept of systems and organizational theories approach as it relates to human services delivery.</td>
</tr>
<tr>
<td>2. Demonstrate how financial systems affect human services systems.</td>
</tr>
</tbody>
</table>
### Student Learning Outcomes and Assessment Measures

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Analyze theoretical systemic problems in human services.</td>
<td>Case analysis</td>
</tr>
<tr>
<td></td>
<td>Class discussion</td>
</tr>
<tr>
<td>4. Determine current systemic problems facing human services delivery.</td>
<td>Paper</td>
</tr>
<tr>
<td></td>
<td>Presentations</td>
</tr>
<tr>
<td>5. Examine agents of change that improve or hinder human services delivery.</td>
<td>Class discussion</td>
</tr>
<tr>
<td></td>
<td>Small group activities</td>
</tr>
<tr>
<td></td>
<td>Oral reports</td>
</tr>
<tr>
<td>6. Analyze the crisis in human services delivery systems.</td>
<td>Class discussion</td>
</tr>
<tr>
<td></td>
<td>Oral reports</td>
</tr>
<tr>
<td>7. Analyze parallel processes in trauma-organized systems.</td>
<td>Class Discussion</td>
</tr>
<tr>
<td></td>
<td>Paper</td>
</tr>
</tbody>
</table>

### IV. Course Level Justification
The course builds upon previous course work received in an accredited associate degree program and requires familiarity with the concepts, methods, and vocabulary of the human services discipline.

### V. Topical Course Outline

1.0 Safety: General Campus Safety

2.0 Knowledge and Theories about Organizations
   2.1 Defining organizations
   2.2 Organizational theories and conceptual frameworks

3.0 Human Services Organizational Settings, Goals, and Environmental Contexts
   3.1 Mission statements, goals, and objectives
   3.2 Environmental context of human services organizations
   3.3 Impact of social and economic forces of human services organizations

4.0 Organizational Structure and Dynamics
   4.1 Organizational culture
   4.2 Organizational structure
   4.3 Interpersonal communication in human services organizations
   4.4 The human services worker as an employee: Supervision in organizational settings.
   4.5 Power and politics in human services organizations

5.0 Human Behavior, Management, and Empowerment in Organizations
   5.1 Importance of management
   5.2 Problems frequently encountered by and in human services organizations
   5.3 Newer approaches to management and worker empowerment

6.0 Communities in the Macro Social Environment: Theories and Concepts
   6.1 Defining communities
   6.2 Social systems and human ecology theories within the conceptual framework of communities.
   6.3 Non-geographical communities
   6.4 Geographical communities
7.0 Systems in Crisis
   7.1 System degradation
   7.2 The impact of biological reductionism
   7.3 Managed care and ethical conflicts
   7.4Privatization rules
   7.5 Mental models for U.S. capitalism
   7.6 Systems as a machine or a living organism
   7.7 Interlocking crises of latest changes of mental health systems
   7.8 Six stages of crisis management

8.0 Biopsychosocial Model and General Systems Theory
   8.1 Deinstitutionalization and deregulation
   8.2 Economic and human burden on the system
   8.3 Managed care and inadequate payment with economic challenges
   8.4 Transinstitutionalization and inappropriate care

9.0 Unrelenting Systems Stress
   9.1 Kinds of stress
   9.2 Workplace stress: definitions, scope, and costs
   9.3 Workload and job complexity
   9.4 Inadequate training and career development
   9.5 Regulation, paperwork, and corporate compliance
   9.6 Professional values, ethical conflicts, and burnout
   9.7 Violence in the human services workplace

10.0 Parallel Processes and Trauma-Organized Systems
   10.1 Organizations as complex, adaptive, emergent systems
   10.2 Group stress responses
   10.3 Social defense systems
   10.4 The impact of chronic stress and collective trauma
   10.5 Vicarious trauma, secondary traumatic stress, compassion fatigue and burnout

11.0 Restoring Sanctuary: Organizations as Living, Complex Adaptive Social Systems
   11.1 There is so much as stake
   11.2 Sanctuary Model: A new operating system for organizations
   11.3 Universal commitment
   11.4 Safety, Emotional Management, Loss and Future (S.E.L.F.): A nonlinear organizing framework – movement to a better future

VI. Suggested Texts

VII. Bibliography and Resources


Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
CH College of Health

1b. Division
ADHS Div of Human Svs Health Sci

1c. Department
Human Services

2. Course Prefix
HUMS

3. Course Number
A416

4. Previous Course Prefix & Number
N/A

5a. Credits/CEUs
3.0

5b. Contact Hours
(Lecture + Lab)
(3+0)

6. Complete Course Title
Substance Abuse and the Older Adult

7. Type of Course
☒ Academic ☐ Preparatory/Development ☐ Non-credit ☐ CEU ☐ Professional Development

8. Type of Action:
☐ Add ☑ Change ☐ Delete

9. Repeat Status No  # of Repeats Max Credits

10. Grading Basis
☒ A-F ☐ P/NP ☐ NG

11. Implementation Date  semester/year
From: Fall/2014 To: /9999

12. ☐ Cross Listed with N/A
☒ Stacked with N/A

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.ualaska.edu/governance.

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelors Degree in Human Services</td>
<td>9/30/13</td>
<td>Laura Kelley</td>
</tr>
<tr>
<td>2.</td>
<td>3.</td>
<td></td>
</tr>
</tbody>
</table>

Initiator Name (typed): Laura Kelley  Initiator Signed Initials: __________ Date: __________

13b. Coordination Email
Date: 9/30/13  submitted to Faculty Listserv: (uaa-faculty@lists.ualaska.edu)

13c. Coordination with Library Liaison
Date: 9/30/13

14. General Education Requirement
Mark appropriate box:
☐ Oral Communication ☐ Written Communication ☐ Quantitative Skills ☐ Humanities
☐ Fine Arts ☐ Social Sciences ☐ Natural Sciences ☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)
Addresses the issues related to older adults misusing alcohol, drugs, prescription medications and other substances. Emphasis will be placed on identification, assessment and intervention strategies.

16a. Course Prerequisite(s) (list prefix and number or test code and score)
(HUMS A122 or HUMS A223 or HUMS A226) with a grade C or better.

16b. Co-requisite(s) (concurrent enrollment required)
N/A

16c. Other Restriction(s)
☐ College ☒ Major ☐ Class ☐ Level

16d. Registration Restriction(s) (non-codable)
Admitted to the Bachelor of Human Services Degree or with departmental approval

17. ☐ Mark if course has fees

18. ☐ Mark if course is a selected topic course

19. Justification for Action
Updating curriculum to meet the revised Council for Standards in Human Service Education standards.

Initiator (faculty only)
Laura Kelley  Date
Initiator (TYPE NAME)

Approved ☐ Disapproved ☐
Dean/Director of School/College Date

Approved ☐ Disapproved ☐
Undergraduate/Graduate Academic Date

Approved ☐ Disapproved ☐
Board Chair Date

Approved ☐ Disapproved ☐
Provost or Designee Date
I. Date of Initiation
   Fall, 2013

II. Curriculum Action Request
   A. College: College of Health
   B. Course Subject: Human Services
   C. Course Number: HUMS A416
   D. Number of Credits: 3.0
   E. Contact Hours: 3+0
   F. Course Program: Bachelors Degree in Human Services
   G. Course Title: Substance Abuse and the Older Adult
   H. Grading Basis: A-F
   I. Implementation Date: Fall, 2014
   J. Cross-listed/Stacked: N/A
   K. Course Description:
      Addresses the issues related to older adults misusing alcohol, drugs, prescription medications and other substances. Emphasis will be placed upon identification, assessment, and intervention strategies.
   L. Course Prerequisites:
      (HUMS A122 or HUMS A223 or HUMS A226) with a grade C or better.
   M. Test Scores: N/A
   N. Course Co-Requisite: N/A
   O. Other Restrictions: Major
   P. Registration Restrictions:
      Admitted to the Bachelor of Human Services Degree or with departmental approval.
   Q. Course Fees: N/A

III. Instructional Goals and Student Learning Outcomes
   A. The instructor will:
      1. Examine theoretical concepts and issues associated with drug and alcohol abuse among older adults.
      3. Present drug and alcohol screening and assessment approaches appropriate for older adults.
      4. Examine complications associated with older adult’s alcohol and other drug use and misuse.
      5. Present other addictive problems: prescription drug misuse and tobacco.
      6. Examine intervention strategies appropriate for older adults.

   B. Upon completion of this course the student will be able to:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Discuss theoretical concepts associated with drug and alcohol abuse among older adults.</td>
<td>Written assignment</td>
</tr>
<tr>
<td>2. Analyze substance abuse patterns among older adults.</td>
<td>Written test</td>
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<tr>
<td>3. Compare screening and assessment instruments appropriate for older adults.</td>
<td>Small group activity</td>
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<td>Written assignment</td>
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### Student Learning Outcomes and Assessment Measures

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
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<tr>
<td>4. Differentiate among complications associated with substance abuse among older adults.</td>
<td>Written assignment</td>
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<tr>
<td>5. Examine prescription drug and tobacco addiction among older adults.</td>
<td>Small group activity</td>
</tr>
<tr>
<td>6. Contrast intervention strategies appropriate for older adults.</td>
<td>Written assignment</td>
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</table>

### IV. Course Level Justification:
The course deals with a specific population and builds upon course material introduced in prerequisites. The course demands that students have the ability to utilize critical thinking skills to analyze information and engage in complex problem solving through the application of treatment planning.

### V. Topical Course Outline

1.0 Recognition of Alcohol and Other Drug Use among Older Adults.
   1.1 Behavioral patterns
   1.2 Cultural issues
   1.3 Gender issues
   1.4 Theoretical concepts

2.0 Assessment of Alcohol and Other Drug Usage among Older Adults.
   2.1 Short Michigan Alcohol Screening Test-Geriatric Version (SMAST-G)
   2.2 Additional assessment and follow-up instruments
   2.3 Mental disorders and symptoms in older alcoholics/addicts

3.0 Complications of Older Adult and Other Drug Use/Misuse.
   3.1 Effects of alcohol on mental illness
   3.2 Alcohol, drug and medication interactions
   3.3 Alcoholism, drug abuse, and suicide among older adults

4.0 Intervention
   4.1 Treatment of alcohol and other drug use disorders in older adults
   4.2 Age specific intervention strategies
   4.3 Brief alcohol interventions
   4.4 Further treatment strategies

### VI. Suggested Text

### VII. Bibliography


**Course Action Request**

**University of Alaska Anchorage**

Proposal to Initiate, Add, Change, or Delete a Course

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<th>1c. Department</th>
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<td>Develops advanced counseling theory and skills specifically required by human services professionals providing substance abuse treatment. Includes client assessment, diagnosis, and treatment planning. Substance abuse treatment strategies are compared with a general theoretical application for the substance abuse professional.</td>
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I. Date of Initiation
Fall, 2013

II. Curriculum Action Request
A. College College of Health
B. Course Subject Human Services
C. Course Number HUMS 417
D. Number of Credits 3.0
E. Contact Hours (3+0)
F. Course Program Bachelors Degree in Human Services
G. Course Title Substance Abuse Counseling for Human Services Professionals
H. Grading Basis A-F
I. Implementation Date Fall, 2014
J. Cross-listed/Stacked N/A
K. Course Description Develops advanced counseling theory and skills specifically required by human services professionals providing substance abuse treatment. Includes client assessment, diagnosis, and treatment planning. Substance abuse treatment strategies are compared with a general theoretical application for the substance abuse professional.
L. Course Prerequisites (HUMS A122 or HUMS A223 or HUMS A226) with a grade C or better.
M. Test Scores N/A
N. Course Co-Requisite N/A
O. Other Restrictions Major
P. Registration Restrictions Admitted to the Bachelor of Human Services Degree program, or with departmental approval.
Q. Course Fees N/A

III. Instructional Goals and Student Learning Outcomes
A. The instructor will:
1. Promote understanding and awareness of the physical, mental, economic and social problems associated with substance abuse.
2. Demonstrate the current principals of substance abuse counseling as evidence based practices.
3. Explain and demonstrate techniques utilized to assist clients in lifestyle change including the impact that trauma has had on many clients who use substances.
4. Familiarize the student with procedures necessary to facilitate effective assessment and treatment planning.
5. Examine the stages of change and how to recognize where clients are in relation to their openness to embrace the change process.

B. Upon completion of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identify the types of substance abuse problems that clients typically experience.</td>
<td>Written assignments</td>
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<tr>
<td></td>
<td>Class discussion</td>
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</table>
### Student Learning Outcomes and Assessment Measures

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
</tr>
</thead>
</table>
| 2. Compare and contrast counseling techniques suitable for substance abuse treatment. | Written assignments  
Class discussion |
| 3. Analyze specific counseling techniques to work through past trauma, resistance, denial, referral and treatment planning. | Written assignments  
Class discussion  
Exams |
| 4. Distinguish different assessment tools used to diagnosis substance abuse treatment. | Written assignments  
Class activities  
Completing assessment screening Tools. |
| 5. Examine the stages of change, analyze and demonstrate the steps in the intervention model. | Case analysis |

### IV. Course Level Justification

The techniques taught in this course prepare students to identify clients with substance abuse issues to assess the severity of a situation, utilize counseling strategies to encourage healing and recovery and to access community resources to make referrals for additional services. Tasks require the ability to analyze, synthesize, compare and contrast, develop, elaborate and apply course materials to solve complex problems. The course builds on HUMS A122 or HUMS A223 or HUMS A226 with a grade C or better.

### V. Topical Course Outline

1.0 Safety: General Campus Safety

2.0 Substance Abuse Counseling for the 21st Century
   2.1 A working definition
   2.2 Guidelines
   2.3 Counselor roles and settings

3.0 Drugs/Alcohol and Their Effects
   3.1 Characteristics of drugs
   3.2 Physiological functioning of user
   3.3 Psychological functioning of user
   3.4 Sociocultural environment
   3.5 Drug classification system

4.0 Motivational Interviewing
   4.1 Interviewing
   4.2 Principles

5.0 Assessment and Treatment Planning
   5.1 Comprehensive assessment process
   5.2 Assessment devises
   5.3 Treatment planning

6.0 Helping Clients Change
   6.1 The counseling relationship
   6.2 Interrupting substance use behaviors
6.3 Linking clients to 12-step and other self-help groups
6.4 Co-occurring substance abuse, mental health problems and the effects of trauma

7.0 Empowering Clients Through Group Work
7.1 Collaborative style
7.2 Support for change
7.3 Transferable skills
7.4 Supportiveness and multicultural competence

8.0 Working with Families
8.1 Systems theory
8.2 Substance abuse and the family system
8.3 Stages in family recovery
8.4 Family counseling competencies

9.0 Program Planning and Evaluation
9.1 Environmental contingencies
9.2 Accountability for outcomes
9.3 Program planning
9.4 Evaluation

10.0 Preventing Substance Abuse
10.1 Concept of prevention
10.2 General model of prevention
10.3 Determining the purpose of prevention
10.4 Developing a causal model
10.5 Producing change
10.6 Effectiveness of prevention programs

VI. Suggested Texts

VII. Bibliography and Resources


# Course Action Request

**University of Alaska Anchorage**

Proposal to Initiate, Add, Change, or Delete a Course

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<thead>
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<th>1a. School or College</th>
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<td>Human Services</td>
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<td>Presents advanced facilitation skills enhancing the helping process used in both individual and group settings. The course presents specific theoretical concepts, techniques, and approaches appropriate to a broad range of human services delivery systems.</td>
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| 16a. Course Prerequisite(s) (list prefix and number or test code and score) |
| HUMS 324 with a grade of C or better. |

| 16b. Co-requisite(s) (concurrent enrollment required) |
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| 16d. Registration Restriction(s) (non-codable) |
| Admitted to the Bachelor of Human Services Degree or with departmental approval. |

| 17. Mark if course has fees |

| 18. Mark if course is a selected topic course |

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| 20. Initials (typed): \\n| Lynn Paterna |

| Date: ____________________ |

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<th>Board Chair</th>
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<tr>
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<tbody>
<tr>
<td>Approved</td>
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<tr>
<td>Disapproved</td>
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141
I. Date of Initiation

Fall, 2013

II. Curriculum Action Request

A. College
   College of Health

B. Course Subject
   Humans Services

C. Course Number
   HUMS 435

D. Number of Credits
   3.0

E. Contact Hours
   3+0

F. Course Program
   Bachelors Degree in Human Services

G. Course Title
   Individual and Group Facilitation

H. Grading Basis
   A-F

I. Implementation Date
   Fall, 2014

J. Cross-listed/Stacked
   N/A

K. Course Description
   Presents advanced facilitation skills enhancing the helping process used in both individual and group settings. The course presents specific theoretical concepts, techniques, and approaches appropriate to a broad range human services delivery systems.

L. Course Prerequisites
   HUMS 324 with a grade of C or better.

M. Test Scores
   N/A

N. Course Co-Requisite
   N/A

O. Other Restrictions
   N/A

P. Registration Restrictions
   Admitted to the Bachelor of Human Services Degree or with departmental approval.

Q. Course Fees
   N/A

III. Instructional Goals and Student Learning Outcomes

A. The instructor will:
   1. Identify theoretical systems associated with facilitation of the helping process for individuals and groups.
   2. Examine effective ingredients for facilitation skills of individuals and groups in service delivery.
   3. Present and compare examples of the main counseling theories and their relevancy to problem resolution in the human services setting.
   4. Provide case studies to demonstrate various styles, strategies, and approaches that occur in the human services counseling arenas.
   5. Examine the basic elements of human services group facilitation.
   6. Link and explain the impact of diversity and multicultural issues in individual and group facilitation.
   7. Provide examples of various kinds of groups in the human services practice.
   8. Examine the importance of trauma informed awareness within the context of human services delivery systems.
Upon completion of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Analyze different theoretical concepts associated with facilitation of the helping process for individuals and groups.</td>
<td>Class discussion</td>
</tr>
<tr>
<td></td>
<td>Written assignments</td>
</tr>
<tr>
<td><strong>2.</strong> Analyze effective ingredients for facilitation skills of individuals and groups.</td>
<td>Role play</td>
</tr>
<tr>
<td></td>
<td>Test</td>
</tr>
<tr>
<td><strong>3.</strong> Compare various counseling styles, strategies and approaches used in providing services to clients in the human services arenas.</td>
<td>Written analysis of case examples</td>
</tr>
<tr>
<td><strong>4.</strong> Demonstrate basic elements of human services group facilitation.</td>
<td>Class discussion</td>
</tr>
<tr>
<td></td>
<td>Written assignment</td>
</tr>
<tr>
<td></td>
<td>Test</td>
</tr>
<tr>
<td><strong>5.</strong> Assess the impact of diversity and multicultural issues in individual and group facilitation.</td>
<td>Class discussion</td>
</tr>
<tr>
<td></td>
<td>Written assignment</td>
</tr>
<tr>
<td><strong>6.</strong> Engage in group activities in human services practice.</td>
<td>Role play</td>
</tr>
<tr>
<td><strong>7.</strong> Examine the role played of prior trauma experiences on clients in the facilitation of services.</td>
<td>Class discussion</td>
</tr>
<tr>
<td></td>
<td>Written assignment</td>
</tr>
</tbody>
</table>

IV. Course Level Justification
This course is a core requirement for a Bachelor of Human Services degree and builds on prerequisite course material. The course requires the ability to utilize higher level thinking skills and apply course materials to analyze complex problems and facilitate problem resolutions.

V. Topical Course Outline
1.0 Safety: General Campus Safety

2.0 Counseling Theories Review
   2.1 Person-centered
   2.2 Existential
   2.3 Gestalt
   2.4 Narrative and feminist counseling
   2.5 Rational emotive
   2.6 Behavior and cognitive behavior
   2.7 Reality
   2.8 Solution-focused
   2.9 Mindfulness

3.0 Providing Effective Facilitation
   3.1 Ingredients for positive change
   3.2 Characteristics of successful clients
   3.3 Essential conditions of effective relationships
   3.4 Skill development: Encouragers
   3.5 Trauma related experiences

4.0 Building a Positive Alliance with the Client
   4.1 Types of individual interviews
4.2 Beginning the initial interview
4.3 Exploration and identification of goals

5.0 Elements of Human Services Group Process
5.1 Group leadership
5.2 Group formation
5.3 Stages in group development
5.4 Values and ethics in practice

6.0 The Impact of Diversity on Group Practice
6.1 Age and stage of the life cycle: the geriatric population
6.2 Physical ability and group culture
6.3 Sexual orientation of clients
6.4 Intercultural issues: Group leader-member differences
6.5 Inter-and intracultural issues between group members

VI. Suggested Texts


VII. Bibliography and Resources


### Course Action Request

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course**

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH College of Health</td>
<td>ADHS Div of Human Svls Health Sci</td>
<td>Human Services</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMS</td>
<td>A461</td>
<td>N/A</td>
<td>3.0</td>
<td>(Lecture + Lab) (3+0)</td>
</tr>
</tbody>
</table>

### 6. Complete Course Title

**Crisis Intervention**

Abbreviated Title for Transcript (30 character)

### 7. Type of Course

- Academic
- Preparatory/Development
- Non-credit
- CEU
- Professional Development

### 8. Type of Action:

- [x] Add
- [ ] Change
- [ ] Delete

If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Other Restrictions
- Credit/CEU
- Contact Hours
- Repeat Status
- Cross-Listed/Stacked
- Course Prerequisites
- Co-requisites
- Registration Restrictions
- General Education Requirement
- Other Update CCG (please specify)

### 9. Repeat Status

<table>
<thead>
<tr>
<th># of Repeats</th>
<th>Max Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 10. Grading Basis

- [x] A-F
- [ ] P/NP
- [ ] NG

### 11. Implementation Date

**From:** Fall/2014  **To:** /9999

### 12. Cross Listed

- [ ] with N/A
- [ ] Stacked with N/A

Cross-Listed Coordination Signature

### 13a. Impacted Courses or Programs:

List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>BHS Human Services</td>
<td>4/08/2013</td>
<td>Laura Kelley</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Initiator Name (typed): Jo Ann Bartley  
Initiator Signed Initials: ____________  
Date: ____________

### 13b. Coordination Email

Date: 4/08/2013  
Submitted to Faculty Listserv: [uaa-faculty@lists.uaa.alaska.edu](mailto:uaa-faculty@lists.uaa.alaska.edu)

### 13c. Coordination with Library Liaison

Date: 4/28/2013

### 14. General Education Requirement

Mark appropriate box:

- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

### 15. Course Description (suggested length 20 to 50 words)

Presents essential crisis intervention techniques focused upon a systematic approach to effective crisis management. The course is organized into five categories: crisis causality, identification, intervention, treatment strategies, and follow up.

### 16a. Course Prerequisite(s) (list prefix and number or test code and score)

HUMS A324 with a minimum grade of C.

### 16b. Co-requisite(s) (concurrent enrollment required)

N/A

### 16c. Other Restriction(s)

- College
- Major
- Class
- Level

### 16d. Registration Restriction(s) (non-codable)

Admitted to the Bachelor of Human Services Degree or in preparation for the Minor in Human Services.

### 17. Mark if course has fees

- [ ]

### 18. Mark if course is a selected topic course

- [ ]

### 19. Justification for Action

Updating curriculum to prepare for the upcoming Council for Standards in Human Service Education Reaccreditation.

Initiator (faculty only)

Jo Ann Bartley

Initiator (TYPE NAME)

Approved  
Disapproved

Department Chair  
Date

Approved  
Disapproved

Undergraduate/Graduate Academic  
Date

Approved  
Disapproved

Board Chair  
Date

Approved  
Disapproved

Provost or Designee  
Date

Approved  
Disapproved

Dean/Director of School/College  
Date

Approved  
Disapproved

Date
University of Alaska Anchorage  
College of Health  
Course Content Guide

I. Date of Initiation  
Fall, 2013

II. Curriculum Action Request  
A. College  
   College of Health  
B. Course Subject  
   Human Services  
C. Course Number  
   HUMS A461  
D. Number of Credits  
   3  
E. Contact Hours  
   3+0  
F. Course Program  
   Bachelors Degree in Human Services  
G. Course Title  
   Crisis Intervention  
H. Grading Basis  
   A-F  
I. Implementation Date  
   Fall 2014  
J. Cross-listed/Stacked  
   N/A  
K. Course Description  
   Presents essential crisis intervention techniques focused upon a systematic approach to effective crisis management. The course is organized into five categories: crisis causality, identification, intervention, treatment strategies, and follow up.

L. Course Prerequisites  
   HUMS A324 with a minimum grade of C.  
M. Test Scores  
   N/A  
N. Course Co-Requisite  
   N/A  
O. Other Restrictions  
   Major  
P. Registration Restrictions  
   Admitted to the Bachelor of Human Services Degree or in preparation for the Minor in Human Services.  
Q. Course Fees  
   N/A

III. Instructional Goals and Student Outcomes  
A. The instructor will:
   1. Analyze the stages of the crisis intervention model.
   2. Distinguish crisis intervention categories to include trauma assessment.
   3. Explain and demonstrate the steps in crisis intervention counseling.
   4. Distinguish crisis intervention strategies utilizing crisis intervention counseling skills.
   5. Analyze and demonstrate how to identify at risk clients.
   6. Identify community resources for crisis support.

B. Upon completion of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Examine crisis intervention categories including trauma.</td>
<td>Class discussion and role play</td>
</tr>
<tr>
<td>2. Analyze and demonstrate the steps in a crisis intervention model.</td>
<td>Case analysis, small group activity, exams</td>
</tr>
<tr>
<td>3. Demonstrate proficiency in using brief crisis intervention counseling skills.</td>
<td>Case analysis and role play, small group activity, and completing assessment screening tools</td>
</tr>
<tr>
<td>Student Learning Outcomes</td>
<td>Assessment Measures</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>4. Examine the steps and stages of a crisis model and differentiate which types of intervention are appropriate.</td>
<td>Class discussion, small group activities, written assignments and exams</td>
</tr>
<tr>
<td>5. Demonstrate the factors that contribute to becoming a client who may be considered to be at risk.</td>
<td>Case analysis, small group activity completing assessment screening tools</td>
</tr>
<tr>
<td>6. Identify crisis intervention community resources.</td>
<td>Assignments class discussion to locate, summarize and present what crisis services are available in the community</td>
</tr>
</tbody>
</table>

IV. Course Level Justification:
This course is a core requirement for a Bachelor of Human Services degree and a selective in the Human Services minor. The techniques taught in this course require the ability to analyze, synthesize, compare and contrast, develop, elaborate, and apply the culmination of prior course materials to solving complex problems to identify crisis situations; to assess the severity of a situation, to provide stabilization to the crisis participants and to utilize community resources to make referrals for services.

V. Topical Course Outline
1.0 Approaching Crisis Intervention
   1.1 Brief history of crisis intervention
   1.2 Definitions of crisis
   1.3 Behavioral emergencies
   1.4 Characteristics of crisis
   1.5 Theories of crisis and intervention
   1.6 Crisis intervention models
   1.7 Characteristics of effective crisis workers

2.0 Culturally Effective Helping
   2.1 Multicultural perspectives in crisis intervention
   2.2 Shortcomings of a multiculturalist approach
   2.3 Positive aspects of an effective multicultural counselor
   2.4 Support systems

3.0 Intervention and Assessment Models
   3.1 Model of crisis intervention
   3.2 Assessing the severity of the crisis
   3.3 Tools for assessing crisis

4.0 Skills for Basic Crisis Intervention
   4.1 Tools of the trade
   4.2 Crisis case handling
   4.3 Confidentiality
   4.4 Working with difficult clients
   4.5 Trauma informed care

5.0 Crisis Categories and Strategies
5.1 Post traumatic stress disorder
5.2 Suicide
5.3 Sexual assault/ domestic violence
5.4 Substance abuse
5.5 Grief and loss

6.0 Disaster Response
6.1 Psychological first aid
6.2 Focusing on the worker
6.3 Burnout/vicarious traumatization/compassion fatigue
6.4 Resources available
6.5 Referral strategies

VI. Suggested Texts:


VII. Bibliography and Resources


National Coalition Against Domestic Violence: Alaska State Information:


**Course Action Request**

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course**

---

1a. School or College  
CH College of Health

1b. Division  
ADHS Div of Human Svcs  Health Sci

1c. Department  
Human Services

2. Course Prefix  
HUMS

3. Course Number  
A495A

4. Previous Course Prefix & Number  
A295B

5a. Credits/CEUs  
3.0

5b. Contact Hours  
(1+9)

6. Complete Course Title  
Human Services Practicum III

7. Type of Course  
☑ Academic  
☐ Preparatory/Development  
☐ Non-credit  
☐ CEU  
☐ Professional Development

8. Type of Action:  
☐ Add  
☐ Change  
☐ Delete

If a change, mark appropriate boxes:

- ☐ Prefix
- ☐ Course Number
- ☐ Credits
- ☐ Title
- ☐ Repeat Status
- ☐ Contact Hours
- ☐ Grading Basis
- ☐ Cross-Listed/Stacked
- ☒ Course Description
- ☐ Co-requisites
- ☐ Registration Restrictions
- ☐ General Education Requirement
- ☐ Other Restrictions
- ☐ Class Level
- ☐ College Major
- ☐ Other Update CCG (please specify)

9. Repeat Status No  
☐ of Repeats  
☐ Max Credits

10. Grading Basis  
☐ A-F  
☐ P/NP  
☐ NG

11. Implementation Date  
From: Fall 2014  
To: 9999

12. ☐ Cross Listed with N/A  
☐ Stacked with N/A

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

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<th>Chair/Coordinator Contacted</th>
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<td>Bachelor of Human Services</td>
<td>9/30/13</td>
<td>Laura Kelley</td>
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</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
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</table>

Initiator Name (typed): Jo Ann Bartley  
Initiator Signed Initials: _________  
Date: __________________

13b. Coordination Email  
Date: 9/30/13  
submitted to Faculty Listserv: [uaa-faculty@lists.uaa.alaska.edu](mailto:uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison  
Date: 9/30/13

14. General Education Requirement

Mark appropriate box:

- ☐ Oral Communication  
- ☐ Written Communication  
- ☐ Quantitative Skills  
- ☐ Humanities  
- ☐ Fine Arts  
- ☐ Social Sciences  
- ☐ Natural Sciences  
- ☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

Placement in an agency provides students with advancing levels of responsibility in direct client services and/or specialized activities/projects while increasing their professional development. Weekly concurrent classroom seminars required. Students are required to complete 125 agency placement hours.

16a. Course Prerequisite(s) (list prefix and number or test code and score)

HUMS A295B with a grade of C or better

16b. Co-requisite(s) (concurrent enrollment required)

N/A

16c. Other Restriction(s)

- ☐ College  
- ☒ Major  
- ☐ Class  
- ☐ Level

16d. Registration Restriction(s) (non-codable)

Admitted to the Bachelor of Human Services degree with Senior standing

17. ☒ Mark if course has fees

18. ☐ Mark if course is a selected topic course

19. Justification for Action

Updating curriculum to meet the revised Council for Standards in Human Service Education standards.

---

Initiator (faculty only)  
Jo Ann Bartley

Initiator (TYPE NAME)  

Approved  
Disapproved  

Dean/Director of School/College  
Date

Approved  
Disapproved  

Undergraduate/Graduate Academic  
Board Chair  
Date

Approved  
Disapproved  

Provost or Designee  
Date

---

149
I. Date of Initiation  
   Fall, 2013

II. Curriculum Action Request
   A. College  
      College of Health
   B. Course Subject  
      Human Services
   C. Course Number  
      HUMS A495A
   D. Number of Credits  
      3.0
   E. Contact Hours  
      (1+9)
   F. Course Program  
      Bachelors Degree in Human Services
   G. Course Title  
      Human Services Practicum III
   H. Grading Basis  
      A-F
   I. Implementation Date  
      Spring, 2014
   J. Cross-listed/Stacked  
      N/A
   K. Course Description  
      Placement in an agency provides students with advancing levels of responsibility in direct client services and/or specialized activities/projects while increasing their professional development. Weekly concurrent classroom seminars required. Students are required to complete 125 agency placement hours.
   L. Course Prerequisites  
      HUMS A295B with a grade C or better
   M. Test Scores  
      N/A
   N. Course Co-Requisite  
      N/A
   O. Other Restrictions  
      Major
   P. Registration Restrictions  
      Admitted to the Bachelor of Human Services degree with Senior standing
   Q. Course Fees  
      Yes

III. Instructional Goals and Student Learning Outcomes
   A. The instructor will:
      1. Provide the student with an opportunity to integrate the knowledge and skills gained in the classroom and build on prior practicum experiences to facilitate more comprehensive service delivery.
      2. Examine the various service delivery methods and resources in the community.
      3. Provide support for the engagement of the student in meaningful client interaction in order to enhance the student’s ability to:
         a. Evaluate client strengths/challenges.
         b. Design appropriate treatment plans.
      4. Explore the application of ethical standards of human services in the work place.
      5. Link through classroom and placement activities the student’s competency in working with diverse populations.
      6. Distinguish the array of career options available in the field of human services.
      7. Provide guidance regarding the student’s competence in applying case management knowledge and skills.
      8. Examine the application of counseling skills to the target populations served by the placement agency.
      9. Identify the procedures necessary to facilitate effective case management including the impact that trauma has had on many clients seeking services.
B. Upon completion of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Analyze the multiple roles of human services workers as they relate to service provision.</td>
<td>Written assignments</td>
</tr>
<tr>
<td></td>
<td>Class discussion</td>
</tr>
<tr>
<td></td>
<td>Journal assignments</td>
</tr>
<tr>
<td>2. Determine access to community resources and service delivery methods.</td>
<td>Written assignments</td>
</tr>
<tr>
<td></td>
<td>Class discussion</td>
</tr>
<tr>
<td>3. Demonstrate competence in:</td>
<td>Class discussion</td>
</tr>
<tr>
<td>a. Evaluating client strength/challenges</td>
<td>Journal assignments</td>
</tr>
<tr>
<td>b. Designing appropriate treatment/interventions plans</td>
<td></td>
</tr>
<tr>
<td>c. Maintaining professional boundaries</td>
<td></td>
</tr>
<tr>
<td>4. Demonstrate the ethical standards of the human services field into field work practices.</td>
<td>Journal assignments</td>
</tr>
<tr>
<td></td>
<td>Small group activities</td>
</tr>
<tr>
<td>5. Identify culturally competent interventions to work with diverse populations.</td>
<td>Written assignments</td>
</tr>
<tr>
<td></td>
<td>Class discussion</td>
</tr>
<tr>
<td>6. Explore the available range of career options in the human services field.</td>
<td>Presentations</td>
</tr>
<tr>
<td></td>
<td>Class discussion</td>
</tr>
<tr>
<td>7. Determine client needs and apply appropriate case management interventions with an</td>
<td>Presentations</td>
</tr>
<tr>
<td>awareness of trauma informed care.</td>
<td></td>
</tr>
<tr>
<td>8. Demonstrate professional development, knowledge and skills of the human services</td>
<td>Written assignments</td>
</tr>
<tr>
<td>professional within the practicum context.</td>
<td>Class discussion</td>
</tr>
<tr>
<td></td>
<td>Journal assignments</td>
</tr>
<tr>
<td></td>
<td>Presentations</td>
</tr>
</tbody>
</table>

IV. Course Level Justification
This course is a core requirement for a Bachelor of Human Services degree and is designed to provide meaningful supervised field experience. The course requires that students demonstrate a higher level of thinking skills and the ability to apply course materials to solve complex problems.

V. Topical Course Outline
1.0 Safety: General Campus Safety

2.0 The Lay of the Land
   2.1 Welcome to Internship/Practicum Placement
   2.2 Personal development from the practicum experience
   2.3 Professional development
   2.4 Civic development

3.0 Framing the Experience: The Developmental Stages of a Practicum Placement
   3.1 Examining the developmental stage model
   3.2 Connecting the stages and civic development
   3.3 Engaged learning
   3.4 Experiential learning
   3.5 Self-understanding

4.0 Internship Essentials: Tools for Staying Engaged
4.1 Attitudes and values
4.2 Skills
4.3 Personal resources
4.4 Knowledge
4.5 Empowerment

5.0 Starting With You: Understanding of Yourself
5.1 Dealing with difference
5.2 Recognizing reaction patterns

6.0 Experiencing the “What Ifs”: The Anticipation Stage
6.1 Becoming a more engaged learner
6.2 Making the commitment
6.3 Working through the trials and tribulations of anticipation

7.0 Internship Essentials: The Learning Contract and Supervision
7.1 The learning agreement contract
7.2 Getting the most from supervision
7.3 Communicating questions and concerns with supervisors

8.0 Getting To Know the Clients: Managing Value Differences
8.1 Recognizing the traps, assumptions and stereotypes of client profiles
8.2 Accepting the client
8.3 Being accepted by the client
8.4 Specific client issues
8.5 Personal safety of the professional

9.0 Moving Ahead: The Exploration Stage
9.1 Focusing on growth and development
9.2 Remaining engaged
9.3 Slipping and sliding while exploring

10.0 Internship Essentials: Advanced Tools for Staying Engaged and Moving Forward
10.1 Sources of power
10.2 Sources of support
10.3 Framing and reframing
10.4 Taking responsibility
10.5 A meta-model for breaking through barriers: eight steps to creating change

11.0 Navigating the Internship Site
11.1 Background information
11.2 Organizational structure
11.3 Organizational politics
11.4 Organizations as cultures
11.5 External environment

12.0 Finding the Best of the Community
12.1 Community context and the civic professional
12.2 Community structure
12.3 A community inventory
13.0 The Competence Stage
   13.1 Facing the tasks
   13.2 Raising the bar
   13.3 Feeling success
   13.4 Preparing for a profession

14.0 Professional, Ethical, and Legal Issues
   14.1 Internship issues
   14.2 Professional issues: Responsibilities and relationships
   14.3 Ethical issues: Principles and decisions
   14.4 Legal issues: Laws and interpretations
   14.5 Grappling with dilemmas
   14.6 Managing a professional crisis

15.0 The Culmination Stage
   15.1 Wrap up documentation for student records
   15.2 Closure with supervisors
   15.3 Closure with clients

VI. Suggested Texts

VII. Bibliography and Resources


Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College  
CH College of Health  
1b. Division  
ADHS Div of Human Svcs  Health Sci  
1c. Department  
Human Services

2. Course Prefix  
HUMS  
3. Course Number  
A496  
4. Previous Course Prefix & Number  
A495B  
5a. Credits/CEUs  
3.0  
5b. Contact Hours  
(Lecture + Lab)  
(3+0)

6. Complete Course Title  
Human Services Capstone

Abbreviated Title for Transcript (30 character)  

7. Type of Course  
☑ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development

8. Type of Action:  ☐ Add  ☑ Change  ☐ Delete

If a change, mark appropriate boxes:
☐ Prefix  ☑ Course Number  ☑ Course Description  ☑ Credits  ☐ Contact Hours  ☑ Grade  ☑ Grade Basis  ☐ Cross-Listed/Stacked  ☑ Test Score Prerequisites  ☑ Co-requisites  ☑ Other Restrictions  ☑ Repeat Status  ☐ Registration Restrictions  ☐ General Education Requirement  ☐ College  ☐ Major  ☐ Class  ☐ Level  ☐ Other Update CCG (please specify)

9. Repeat Status No  # of Repeats  Max Credits

10. Grading Basis  ☑ A-F  ☐ P/NP  ☐ NG

11. Implementation Date  
From:  Fall/2014  
To:  9999

12. ☐ Cross Listed with N/A  ☐ Stacked with N/A

Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bachelors degree in Human Services</td>
<td>9/30/13</td>
<td>Laura Kelley</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Initiator Name (typed): Jo Ann Bartley  
Initiator Signed Initials: _________ Date:__________

13b. Coordination Email  
Date: 9/30/13  
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison  
Date: 9/30/13

14. General Education Requirement  
Mark appropriate box:  
☐ Oral Communication  ☑ Written Communication  ☐ Quantitative Skills  ☑ Humanities  
☐ Fine Arts  ☐ Social Sciences  ☐ Natural Sciences  ☑ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

Examines and builds upon material required in HUMS A495A and GER courses. The course provides a theoretical framework linking grant writing and research development skills such as literature search and review, exploration of research techniques, and scholarly writing skills necessary to complete and present the Capstone project.

16a. Course Prerequisite(s) (list prefix and number or test code and score)  
(HUMS A420 and HUMS A495A) with a grade C or better

16b. Co-requisite(s) (concurrent enrollment required)  
N/A

16c. Other Restriction(s)  
☐ College  ☑ Major  ☐ Class  ☐ Level

16d. Registration Restriction(s) (non-codable)  
Admitted to the Bachelor of Human Services degree with Senior standing

17. ☐ Mark if course has fees

18. ☐ Mark if course is a selected topic course

19. Justification for Action  
Updating curriculum to meet the revised Council for Standards in Human Service Education standards.

Initiator (faculty only)  
Jo Ann Bartley  
Initiator (TYPE NAME)  

Initiator (faculty only)  
Date

☑ Approved  Dean/Director of School/College  Date

☐ Disapproved

Undergraduate/Graduate Academic  Date

Board Chair  Date

☑ Approved  Provost or Designee  Date

☐ Disapproved

Department Chair  Date

☑ Approved

College/School Curriculum Committee Chair  Date

☐ Disapproved
I. Date of Initiation
Fall, 2013

II. Curriculum Action Request
A. College
College of Health
B. Course Subject
Human Services
C. Course Number
HUMS A496
D. Number of Credits
3.0
E. Contact Hours
(3+0)
F. Course Program
Bachelors Degree in Human Services
G. Course Title
Human Services Capstone
H. Grading Basis
A-F
I. Implementation Date
Fall, 2014
J. Cross-listed/Stacked
N/A
K. Course Description
Examines and builds upon material required in HUMS A495A and GER courses. The course provides a theoretical framework linking grant writing and research development skills such as literature search and review, exploration of research techniques, and scholarly writing skills necessary to complete and present the Capstone project.

L. Course Prerequisites
(HUMS A420 and HUMS A495A) with a grade C or better
M. Test Scores
N/A
N. Course Co-Requisite
N/A
O. Other Restrictions
Major, Class
P. Registration Restrictions
Admitted to the Bachelor of Human Services degree with Senior standing
Q. Course Fees
N/A

III. Instructional Goals and Student Learning Outcomes
A. The instructor will:
1. Distinguish the differences of historical, literacy, statistical, and qualitative techniques used to produce research.
2. Present research concepts to include importance of outcome data and it’s generalization to human services agencies and system delivery.
3. Discuss the application of ethical standards and information literacy of human services in research.
4. Examine the intricacies of grant development including logic models, compliance reporting, implementation of outcome data, funding procurement, and maintenance including effective oral and written communication throughout the process.
5. Link the importance of grant writing skills/research development to work in the human services field in the 21st century.
6. Provide students an opportunity and support to integrate the knowledge, skills gained in classroom, practicum experiences, and to evaluate research in the human services field for the development of the student’s own research project.
B. Upon completion of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Contrast the different types of research methodologies such as historical, literacy, statistical, and qualitative techniques used in research construction.</td>
<td>Written assignments, Class discussion, Quizzes</td>
</tr>
<tr>
<td>2. Demonstrate knowledge integration of concepts pertaining to the purpose of research to include implementation of outcome data and how it can improve service delivery within agencies.</td>
<td>Class discussion, Quizzes</td>
</tr>
<tr>
<td>3. Apply the ethical standards and information literacy of research in the human services field to a research project.</td>
<td>Class discussion, Individual project</td>
</tr>
<tr>
<td>4. Discuss the phases of grant development including logic models, compliance, reporting to grantor, implementation of outcome data and maintenance of funding.</td>
<td>Small group activities, Class discussion, Quizzes</td>
</tr>
<tr>
<td>5. Identify how grant writing skills increase employability for job seekers in the field of human services.</td>
<td>Class discussion, Small group activities</td>
</tr>
<tr>
<td>6. Demonstrate the ability to think, read and write critically by completing research related tasks e.g. hypothesis design, literature review, analyze outcomes and produce a written report of research project.</td>
<td>Completion of a written proposal and bibliography, Final written paper/project and presentation</td>
</tr>
</tbody>
</table>

IV. Course Level Justification
Provides background and information of research and grant development and writing as it relates to human service agencies. The course requires the ability to analyze and synthesize and apply new information to previous information from courses completed in the AAS and BHS programs along with the required GERs. This course provides a mechanism for students to develop, elaborate, and apply course materials to analyzing complex problems.

V. Topical Course Outline
1.0 Safety: General Campus Safety

2.0 Research in the Human Services
   2.1 Goals of research
   2.2 Applications of research
   2.3 Parallels and linkages between research and practice

3.0 The Logic of Social Research
   3.1 Sources of knowledge
   3.2 Theories in research and practice
   3.3 Concepts and hypotheses
   3.4 Perspectives on science
   3.5 Cause-and-effect relationships

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4.0 Ethical Issues in Social Research
   4.1 The minority experience: The need for ethical standards
   4.2 Ethical issues
   4.3 Codes of ethics
   4.4 Scientific misconduct and fraud

5.0 Issues in Problem Formation
   5.1 Selecting a research problem
   5.2 Refining the problem
   5.3 Literature review
   5.4 Feasibility of a research project
   5.5 Utilization of research

6.0 Fundamentals of Measurement
   6.1 Ways of measuring
   6.2 Evaluating measures
   6.3 Sampling and surveys
   6.4 Focus groups

7.0 Evaluation
   7.1 Steps in writing up the project
   7.2 Analyzing the project
   7.3 Presentation of hypothesis and data
   7.4 Utilization of research

8.0 Grant Proposals for Agency Funding
   8.1 The grant-funding sources
   8.2 Grant proposal planning
   8.3 Clarifying an agency’s mission
   8.4 Components of the grant proposal
   8.5 Components of a logic model
   8.6 Demonstrating outcomes
   8.7 Quarterly report writing

VI. Suggested Texts

VII. Bibliography and Resources


To: UAB Curriculum Committee

From: Laura Kelley, Chair Human Services Department, College of Health

Re: Human Services Minor

The UAA Human Services Department is submitting the attached materials for a proposed Human Services Minor. The minor is consistent with the University of Alaska Academic Plan (2011), UAA Strategic Plan (2011) and the State of Alaska Career and Technical Education Plan (2010). The minor utilizes existing Human Services coursework focused upon basic human helping skill sets essential not only to the field of Human Services, but also to the following occupational clusters: healthcare, education, direct service delivery, business and justice related occupations.

The proposed minor also addresses the needs of UAA degree programs requiring the completion of a minor as a condition of graduation as well as the significant number of nursing, pre-nursing and other health related degree seeking students currently enrolled in Human Services courses as electives.

Summary of Human Services Minor

Human Services Minor: Students majoring in another subject who wish to minor in Human Services must complete six courses from the following list. A total of 18 credits is required for the minor, six of which must be upper division. Consultation with an advisor in the Human Services Department is highly recommended.

HUMS 101, 223, 224, and 324 were revised and approved by UAB on 10/22/12 as part of the AAS degree revision process. The remaining courses in the proposed minor: HUMS 321, 322, 333, and 461 have been revised by the department but have not processed through the curricular process and should be reviewed at this time.

HUMS 101 Introduction to Human Services 3
HUMS 223 Introduction to Paraprofessional Counseling I 3
HUMS 224 Conflict and Collaborative Systems 3
HUMS 324 Introduction to Paraprofessional Counseling II 3
HUMS 321 Diversity Issues in Human Services Practice 3
HUMS 322 Service Coordination in Human Services Practice 3
HUMS 333 Alternative Dispute Resolution 3
HUMS 461 Crisis Intervention 3
**Program/Prefix Action Request**

**University of Alaska Anchorage**

Proposal to Initiate, Add, Change, or Delete a Program of Study or Prefix

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH College of Health</td>
<td>Human Services</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Complete Program Title/Prefix</th>
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</thead>
<tbody>
<tr>
<td>Human Services Minor</td>
</tr>
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<table>
<thead>
<tr>
<th>3. Type of Program</th>
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<tbody>
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<td>Choose one from the appropriate drop down menu:</td>
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<tr>
<td>Undergraduate: or Graduate:</td>
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<table>
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<tr>
<th>4. Type of Action:</th>
<th>PROGRAM</th>
<th>PREFIX</th>
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<tr>
<td>☐ Change</td>
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<td>☐ Inactivate</td>
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<table>
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<tr>
<th>5. Implementation Date (semester/year)</th>
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<tbody>
<tr>
<td>From: Fall/2014 To: 9999</td>
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</table>

<table>
<thead>
<tr>
<th>6a. Coordination with Affected Units</th>
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</thead>
<tbody>
<tr>
<td>Department, School, or College: School of Social Work, Justice Center, School of Nursing, School of Allied Health, Mat-Su College, Kenai Peninsula College, Kachemak Bay Campus</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initiator Name (typed):</th>
<th>Laura W. Kelley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6b. Coordination Email submitted to Faculty Listserv (<a href="mailto:uaa-faculty@lists.uaa.alaska.edu">uaa-faculty@lists.uaa.alaska.edu</a>)</th>
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<th>6c. Coordination with Library Liaison</th>
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<table>
<thead>
<tr>
<th>7. Title and Program Description - Please attach the following:</th>
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</thead>
<tbody>
<tr>
<td>☑ Cover Memo</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. Justification for Action</th>
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</thead>
<tbody>
<tr>
<td>The proposed action addresses the following educational needs: 1) serves students enrolled in baccalaureate degree programs requiring the completion of a minor as a graduation requirement, 2) provides the significant number of degree seeking students currently enrolled in Human Services courses as electives the option of earning a minor, and 3) provides skill development essential to a broad range of occupational clusters.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Initiator (faculty only)</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laura W. Kelley</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initiator (TYPE NAME)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Approved</th>
<th>Disapproved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean/Director of School/College</td>
<td>Date</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approved</th>
<th>Disapproved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate/Graduate Academic Board Chair</td>
<td>Date</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approved</th>
<th>Disapproved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provost or Designee</td>
<td>Date</td>
</tr>
</tbody>
</table>
Minor, Human Services

Students majoring in another subject who wish to minor in Human Services must complete six courses from the following list. A total of 18 credits is required for the minor, six of which must be upper division. Consultation with an advisor in the Human Service Department is highly recommended.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMS A101</td>
<td>Introduction to Human Services</td>
<td>3</td>
</tr>
<tr>
<td>HUMS A223</td>
<td>Introduction to Paraprofessional Counseling I</td>
<td>3</td>
</tr>
<tr>
<td>HUMS A224</td>
<td>Conflict and Collaborative Systems</td>
<td>3</td>
</tr>
<tr>
<td>HUMS A321</td>
<td>Diversity Issues in Human Services Practice</td>
<td>3</td>
</tr>
<tr>
<td>HUMS A322</td>
<td>Service Coordination in Human Services Practice</td>
<td>3</td>
</tr>
<tr>
<td>HUMS A324</td>
<td>Introduction to Paraprofessional Counseling II</td>
<td>3</td>
</tr>
<tr>
<td>HUMS A333</td>
<td>Alternative Dispute Resolution</td>
<td>3</td>
</tr>
<tr>
<td>HUMS A461</td>
<td>Crisis Intervention</td>
<td>3</td>
</tr>
</tbody>
</table>

FACULTY

Jo Ann Bartley, Assistant Professor, jbartley@uaa.alaska.edu
Laura Kelley, Professor, lwkelley@uaa.alaska.edu
Lynn Paterna, Assistant Professor, lspaterna@uaa.alaska.edu
Ira Rosnel, Associate Professor, irosnel@uaa.alaska.edu
Memo

To: UAB Curriculum Committee

From: Laura W. Kelley, Chair Human Services Department

Re: Proposed revisions to BHS in Human Services

In keeping with the missions of both UAA and the COH, the intent of the Human Services BHS Degree Program is to prepare human services professionals through a competency-based, community-oriented academic program blending knowledge, scholarship and applied experiences.

Both the AAS and BHS Human Services degree programs were reaccredited by the Council for Standards in Human Services Education in 2008, and a full reaccreditation is presently scheduled for 2014. Recent developments in both the Human Services profession and accreditation standards require revisions to the existing BHS curriculum. The Human Services Department submits the attached course revisions and curricular changes to address professional and accreditation modifications made in the last five years to include: national testing and certification of human services practitioners and identification of human services as a distinct profession within the social service area.

SUMMARY OF REVISIONS:

Major Change #1: The revised curriculum replaces the previous six credit emphasis area requirement with a six credit selective requirement. Students may choose selectives from a choice of five courses: HUMS A333, HUMS A334, HUMS A350, HUMS A416 and HUMS A351 which is a new course included in this submission.

Major Change #2: The following courses will be removed as required courses but retained in the course catalog.
- HUMS A424
- HUMS A434

Major Change #3: The revised curriculum adds four additional required courses: HUMS A352, HUMS A415, HUMS A420, HUMS A435.

Major Change #4: The following courses were revised for the Human Services minor: HUMS A321, HUMS A322, HUMS A333, and HUMS A461.

Major Change #5: The following courses have been revised: HUMS A412, HUMS A417, and HUMS A495A.
### Program/Prefix Action Request

**University of Alaska Anchorage**

Proposal to Initiate, Add, Change, or Delete a Program of Study or Prefix

<table>
<thead>
<tr>
<th>1a. School or College</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CH College of Health</td>
<td>Human Services</td>
</tr>
</tbody>
</table>

2. **Complete Program Title/Prefix**

   Bachelor of Human Services

3. **Type of Program**

   Choose one from the appropriate drop down menu:
   - Undergraduate: Bachelor of Human Services
   - Graduate: CHOOSE ONE

   This program is a Gainful Employment Program: ☑ Yes  or  ☐ No

4. **Type of Action:**

   - PROGRAM
   - PREFIX
     - Add
     - ☑ Change
     - ☐ Delete
     - ☐ Inactivate

5. **Implementation Date (semester/year)**

   From: Fall/2014  To: /9999

6a. **Coordination with Affected Units**

   Department, School, or College:
   - Initiator Name (typed): ________
   - Initiator Signed Initials: ________
   - Date:____________

6b. **Coordination Email submitted to Faculty Listserv (uaa-faculty@lists.uaa.alaska.edu)**

   Date: 9/30/13

6c. **Coordination with Library Liaison**

   Date: 9/30/13

7. **Title and Program Description - Please attach the following:**

   - ☑ Cover Memo
   - ☑ Catalog Copy in Word using the track changes function

8. **Justification for Action**

   Updating curriculum to meet the revised Council for Standards in Human Service Education standards

---

**Initiator (faculty only)**

Laura Kelley

**Initiator (TYPE NAME)**

Date

☐ Approved  ☐ Disapproved

Dean/Director of School/College

Date

☐ Approved  ☐ Disapproved

Undergraduate/Graduate Academic Board Chair

Date

☐ Approved  ☐ Disapproved

Provost or Designee

Date

☐ Approved  ☐ Disapproved

Department Chair

Date

☐ Approved  ☐ Disapproved

College/School Curriculum Committee Chair

Date
Bachelor of Human Services

Program Student Learning Outcomes

Students graduating with a Bachelor of Human Services will:

- Demonstrate knowledge, skills and ethical values integral to the field of Human Services.
- Possess advanced skill sets necessary to provide direct and indirect client services in a community-based Human Services professional setting.
- Apply research and program evaluation techniques appropriate to the field of Human Services.

Admission Requirements

Complete the Requirements for Admission to Baccalaureate Degree programs in Chapter 7. Students must complete an Associate of Applied Science, Human Services degree from an accredited institution recognized by UAA. See the Human Services website at www.uaa.alaska.edu/hums or the Human Services Student Handbook for the Bachelor of Human Services admission process.

Graduation Requirements

Students must complete the following graduation requirements:

A. General University Requirements

Complete the General University Requirements for All Baccalaureate Degrees listed at the beginning of this chapter.

B. General Education Requirements

Complete the General Education Requirements for Baccalaureate Degrees listed at the beginning of this chapter.

C. Major Requirements

1. Complete the following Bachelor of Human Services core requirements:*  
   - HUMS A321 Diversity Issues in Human Services Practice 3  
   - HUMS A322 Service Coordination in Human Services Practice 3  
   - HUMS A352 Human Services Administration 3  
   - HUMS A412 Ethical Issues in Human Services Practice 3  
   - HUMS A414 Advanced Case Management for Human Services Professionals 3  
   - HUMS A415 Advanced Human Services Systems 3  
   - HUMS A417 Substance Abuse Counseling for Human Services Professionals 3  
   - HUMS A420 Introduction to Program Evaluation 3  
   - HUMS A435 Individual and Group Facilitation 3  
   - HUMS A461 Crisis Intervention 3  
   - HUMS A495A Human Services Practicum III 3  
   - HUMS A496 Human Services Capstone 3  

   * Note: Cannot be used as selectives.

2. Complete 6 credits from the following list of selectives. 6  
   - HUMS A333 Alternative Dispute Resolution (3)  
   - HUMS A334 Family Mediation (3)  
   - HUMS A350 Men and Masculinity (3)  
   - HUMS A351 Career Development for Human Services Professionals (3)  
   - HUMS A416 Substance Abuse and the Older Adult (3)  

3. A total of 121 credits is required for the degree, of which 42 credits must be upper division.
Bachelor of Human Services

Program Student Learning Outcomes

Students graduating with a Bachelor of Human Services will:

• Possess an understanding of knowledge, skills and values integral to the field of Human Services.
• Demonstrate knowledge, skills and ethical values integral to the field of Human Services.
• Possess advanced skill sets necessary to provide direct and indirect client services in a community-based Human Services professional setting.

Admission Requirements

Complete the Requirements for Admission to Baccalaureate Degree programs in Chapter 7. Students must complete an Associate of Applied Science, Human Services degree from an accredited institution recognized by UAA. See the Human Services website at www.uaa.alaska.edu/hums or the Human Services Student Handbook for the Bachelor of Human Services admission process.

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1. Complete the following Bachelor of Human Services core requirements:

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<tr>
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<td>Service Coordination in Human Services Practice</td>
<td>3</td>
</tr>
<tr>
<td>HUMS A352</td>
<td>Human Services Administration</td>
<td>3</td>
</tr>
<tr>
<td>HUMS A333</td>
<td>Alternative Dispute Resolution</td>
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</tr>
<tr>
<td>HUMS A412</td>
<td>Ethical Issues in Human Services Practice</td>
<td>3</td>
</tr>
<tr>
<td>HUMS A414</td>
<td>Rural Treatment Strategies</td>
<td>3</td>
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<tr>
<td>HUMS A415</td>
<td>Advanced Human Services Systems</td>
<td>3</td>
</tr>
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<td>HUMS A417</td>
<td>Substance Abuse Counseling for Human Services</td>
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<td>HUMS A420</td>
<td>Introduction to Program Evaluation</td>
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<td>HUMS A436</td>
<td>Individual and Group Facilitation</td>
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<td>Group Facilitation for Human Services Professionals</td>
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</tr>
<tr>
<td>HUMS A495A</td>
<td>Human Services Practicum III</td>
<td>3</td>
</tr>
<tr>
<td>HUMS A495B</td>
<td>Human Services Practicum IV/Capstone</td>
<td>3</td>
</tr>
</tbody>
</table>

   * Note: Cannot be used in emphasis areas or selectives.

2. Complete an additional 6 credits (to total 12 credits) from the AAS Major Requirements Emphasis Areas Complete 6 credits from the following list of selectives:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMS A333</td>
<td>Alternative Dispute Resolution</td>
<td>3</td>
</tr>
</tbody>
</table>

   **Note: Each Human Service degree (Associate of Applied Science and Bachelor of Human Services) requires a 6-credit emphasis area. BHS students may complete 6 credits from a different emphasis area or an additional 6 credits from the emphasis area used for the AAS.**

HUMS A333: Alternative Dispute Resolution (3)

Formatted: Tab stops: 1.32", Left + Not at 1.13"
HUMS A334  Family Mediation (3)
HUMS A350  Men and Masculinity (3)
HUMS A351  Career Development for Human Services Professionals (3)
HUMS A416  Substance Abuse and the Older Adult (3)

3. A total of 120 credits is required for the degree, of which 42 credits must be upper division.
To: Chair, Undergraduate Academic Board, Faculty Senate

From: Term Assistant Professor Terry Fields, CBPP

Subject: Bachelor of Business Administration, Management

Date: January 1, 2014

This memorandum addresses the proposed change to the Bachelor of Business Administration, Management outlined in this Program Action Request (PAR).

The modification discussed in this memorandum is to add a course to the list of program requirements.

Modification:

The catalog copy shows that an existing course, BA A215 Introduction to Property Management, will be added to the list of program requirements for Bachelor of Business Administration, Management majors.

Justification:

This modification is part of a strategic decision by the College of Business and Public Policy to further structure this program with courses that align closely to the skill sets required of today’s managers. The addition of this course to the program requirements is in response to market demands for management majors to be aware of commercial leasing and negotiations, zoning and land use laws, real estate economics, risk management, and property valuation.
School or College
CB CBPP

Department
Business Administration

Complete Program Title/Prefix
Bachelor of Business Administration, Management

Type of Program
Undergraduate: or Graduate:
Bachelor of Business Administration
CHOOSE ONE

This program is a Gainful Employment Program:
☐ Yes or ☐ No

Type of Action:
☐ PROGRAM
☐ PREFIX

Add
☐ Change
☐ Delete
☐ Inactivate

Implementation Date (semester/year)
From: Fall/2014  To: /9999

Coordination with Affected Units
Initiator Name (typed): ____________________ Initiator Signed Initials: _________ Date: ______________

Coordination Email submitted to Faculty Listserv (uaa-faculty@lists.uaa.alaska.edu) Date: 01/06/2014

Coordination with Library Liaison Date: 01/06/2014

Title and Program Description - Please attach the following:
☐ Cover Memo ☐ Catalog Copy in Word using the track changes function

Justification for Action
This modification is part of a strategic decision by the College of Business and Public Policy to further structure this program with courses that align closely to the skill sets required of today's managers. The addition of BA A215 is in response to market demands for management majors to be aware of commercial leasing and negotiations, zoning and land use laws, real estate economics, risk management, and property valuation.

Initiator (faculty only) Date
Clayton Trotter
Initiator (TYPE NAME)

Approved
Disapproved
Dean/Director of School/College
Date

Department Chair
Date
Undergraduate/Graduate Academic
Date

Board Chair
Date
Provost or Designee
Date
**Management Major**

All courses must be completed with a C or better prior to graduating.

1. **Management (30 credits)**
   a. Complete the following requirements.
      
      BA A215  Introduction to Property Management 3
      BA A361  Human Resource Management 3
      BA A461  Negotiations and Conflict Management 3
      BA A481  Applications in Management 3
      BA A488  Environment of Business 3
      BA A489  Entrepreneurship and New Business Planning 3
   
   b. Upper division electives in ACCT, BA, CIS, ECON or LOG 12

2. **Management: Property Management and Real Estate Concentration (33 credits)**
   a. Complete the following requirements.
      
      BA A215  Introduction to Property Management 3
      BA A225  Leasing in Property Management 3
      BA A302  Maintenance in Property Management 3
      BA A303  Property Management Finance 3
      BA A361  Human Resource Management 3
      BA A461  Negotiation and Conflict Management 3
      BA A421  Property Management Capstone 3
      BA A432  Real Estate Law 3
   
   b. Complete 9 credits from the following: 9
      
      BA A306  Real Estate Principles (3)
      BA A320  Real Estate Finance (3)
      BA A395  Property Management Internship (3-6)
      BA A431  Real Estate Appraisal (3)
      BA A489  Entrepreneurship and New Business Planning (3)

3. A total of 120 credits is required for the degree, of which a minimum of 45 credits must be upper division.

**Marketing Major**

1. Complete the following requirements. The following courses must be completed with a C or better prior to graduating:
   
   BA A381  Consumer Behavior 3
   BA A420  Marketing Research 3
   BA A460  Marketing Management 3
   BA A480  Social Media Marketing 3
   BA A375  Statistics for Business and Economics (3) 3
   or
   ECON A312  Econometrics for Business and Economics (3) 3
   or
   ECON A429  Business Forecasting (3)

2. Complete an additional 6 credits of upper division electives in ACCT, BA, CIS, ECON, or LOG with a grade of C or better prior to graduating: 6

   Upper division Business electives recommended:

   170
3. A total of 120 credits is required for the degree, of which a minimum of 45 credits must be upper division.
Management Major

All courses must be completed with a C or better prior to graduating.

1. Management (27-30 credits)
   a. Complete the following requirements.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA A215</td>
<td>Introduction to Property Management</td>
<td>3</td>
</tr>
<tr>
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<td>3</td>
</tr>
</tbody>
</table>

   b. Upper division electives in ACCT, BA, CIS, ECON or LOG 12

2. Management: Property Management and Real Estate Concentration (33 credits)
   a. Complete the following requirements.

<table>
<thead>
<tr>
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<th>Credits</th>
</tr>
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<tbody>
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</tr>
<tr>
<td>BA A432</td>
<td>Real Estate Law</td>
<td>3</td>
</tr>
</tbody>
</table>

   b. Complete 9 credits from the following: 9

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</thead>
<tbody>
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<tr>
<td>BA A395</td>
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<td>3-6</td>
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<tr>
<td>BA A431</td>
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<td>3</td>
</tr>
<tr>
<td>BA A489</td>
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<td>3</td>
</tr>
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3. A total of 120 credits is required for the degree, of which a minimum of 45 credits must be upper division.

Marketing Major

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<tr>
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<td>3</td>
</tr>
<tr>
<td>BA A375</td>
<td>Statistics for Business and Economics</td>
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</table>

   or

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
</tr>
</thead>
<tbody>
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<td>Econometrics for Business and Economics</td>
<td>3</td>
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   or

<table>
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<tr>
<th>Course Code</th>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON A429</td>
<td>Business Forecasting</td>
<td>3</td>
</tr>
</tbody>
</table>

2. Complete an additional 6 credits of upper division electives in ACCT, BA, CIS, ECON, or LOG with a grade of C or better prior to graduating: 6

   Upper division Business electives recommended:
3. A total of 120 credits is required for the degree, of which a minimum of 45 credits must be upper division.
To: College of Health Curriculum Committee

From: Kathleen Stephenson

Associate Professor, Chair of Associate of Applied Science, Nursing Program

RE: Change in Program Prerequisites for the Associate of Applied Science, Nursing

The Associate of Applied Science, Nursing Program is changing the mathematics prerequisite for entry into the program from elementary high school algebra or MATH 055 to intermediate high school algebra or MATH 105. This requirement may be waived with appropriate scores on SAT, ACT, or UAA approved placement tests such as the Accuplacer Test. This change is necessary to ensure that students entering the nursing program have adequate computational skill for safe medication calculation and administration.
### Program/PREFIX Action Request
**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Program of Study or Prefix**

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH College of Health</td>
<td>Nursing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Complete Program Title/PREFIX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Associate of Applied Science, Nursing</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Type of Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose one from the appropriate drop down menu: Undergraduate: or Graduate: <strong>Associate of Applied Science</strong> CHOOSE ONE</td>
</tr>
</tbody>
</table>

This program is a Gainful Employment Program: ☐ Yes or ☒ No

<table>
<thead>
<tr>
<th>4. Type of Action:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROGRAM: ☐ Add</td>
</tr>
<tr>
<td>☒ Change</td>
</tr>
<tr>
<td>☐ Delete</td>
</tr>
</tbody>
</table>

| PREFIX: ☐ Add |
| ☐ Change |
| ☐ Inactivate |

<table>
<thead>
<tr>
<th>5. Implementation Date (semester/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>From: <strong>January 2015</strong> To: 999/9999</td>
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</table>

<table>
<thead>
<tr>
<th>6a. Coordination with Affected Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department, School, or College: <strong>AMSC</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initiator Name (typed): Kathleen Stephenson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiator Signed Initials: _________</td>
</tr>
<tr>
<td>Date: __________________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6b. Coordination Email submitted to Faculty Listserv (<a href="mailto:uaa-faculty@lists.uaa.alaska.edu">uaa-faculty@lists.uaa.alaska.edu</a>)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date: March 8, 2013</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>6c. Coordination with Library Liaison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date: March 8, 2013</td>
</tr>
</tbody>
</table>

### 7. Title and Program Description - Please attach the following: |

- ☒ Cover Memo
- ☒ Catalog Copy in Word using the track changes function

### 8. Justification for Action

Changes math prerequisite from Elementary Algebra or "Math 005" to Intermediate Algebra or "Math 105." This level math is necessary for successful completion of the program and for professional practice. This requirement may be waived with an appropriate score on the SAT, ACT or UAA approved placement test such as the Accuplacer.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Approved</td>
<td>☐ Disapproved</td>
</tr>
<tr>
<td>Dean/Director of School/College Date</td>
<td></td>
</tr>
</tbody>
</table>

| ☐ Approved | ☐ Disapproved |
|Initiator (TYPE NAME) Date|

| ☐ Approved | ☐ Disapproved |
|Department Chair Date|

| ☐ Approved | ☐ Disapproved |
|Undergraduate/Graduate Academic Board Chair Date|

| ☐ Approved | ☐ Disapproved |
|College/School Curriculum Committee Chair Date|

| ☐ Approved | ☐ Disapproved |
|Provost or Designee Date|

175
Associate of Applied Science, Nursing

Graduates of the Associate of Applied Science Nursing program are prepared to use the nursing process to provide effective nursing services to individuals receiving care in inpatient settings and in structured outpatient settings. The academic program provides students with a closely related mix of theory and clinical practice; students gain experience in hospitals, nursing homes, clinics, and community agencies.

Program Student Learning Outcomes

Students graduating with an Associate of Applied Science in Nursing will be able to:

• Utilize critical thinking skills to assess and diagnose nursing needs and to prioritize, plan, implement, and evaluate care for patients and their families in institutional and community based settings.

• Effectively communicate verbally, in writing, and electronically with health team members, patients, and their families.

• Plan, implement, and evaluate care that is safe, evidence-based, caring, and developmentally and culturally sensitive within ethical, legal, and professional standards.

• Coordinate care of small groups of patients in collaboration with other members of the health care team.

• Develop a plan for lifelong learning and continuing professional development.

Admission Requirements

Students may complete the Associate of Applied Science Nursing program in two academic years (four semesters); admission to the clinical sequence is determined by a ranking process, admission is selective, and admission requirements must be completed prior to February 1 (see items 1-6 below). Students are encouraged to submit an application to the university by August to ensure complete processing of application and transcript evaluation by February 1. Students are encouraged to complete corequisite courses while waiting for admission to the clinical sequence.

In order to have a student file ranked for possible admission to the nursing sequence, the following items must be completed no later than February 1:

1. UAA Certificate of Admission from the Office of Admissions, including transcripts from both high school/GED and college, with transcript evaluations (if any). Documentation from transcripts must show successful completion of the following courses with a minimum grade of C: intermediate algebra, biology with laboratory, and chemistry with laboratory. Courses may have been taken at the high school or college level. Equivalent college-level courses in lieu of high school classes are: MATH A105, BIOL A102 and BIOL A103, and CHEM A055.

2. School of Nursing Application and Confidential Required Information Form sent to the coordinator of student affairs, School of Nursing.

3. Three letters of reference sent to the coordinator of student affairs, School of Nursing.

4. Upon completion of items 1-4, student has an interview with a member of the AAS Admissions Committee.

5. Take the National League for Nursing Pre-admission Exam (PAX-RN) through Advising and Testing. Call (907) 786-4300 for specific dates and to sign up.

6. Upon completion of items 1-6, student’s file is ranked based on a point system.

Please contact the department for further details. Students are contacted in March with the results.

Once admitted to associate degree clinical nursing courses, students are required to provide the following before beginning clinical coursework:

1. Evidence of:
   a. Immunity to rubella and rubeola, confirmed by titer;
   b. Immunity to hepatitis A and hepatitis B, confirmed by titer (first-semester clinical students may be in the process of completing the immunization series; for those students, documentation of immunity by titer is required prior to entry into second-year courses);
   c. Immunity to chicken pox documented by history, titer or current immunization;
   d. Diphtheria/tetanus vaccination within the past 10 years (with booster required at the time of expiration);
e. Freedom from active tuberculosis, documented annually by negative PPD skin test or by health examination by a nurse practitioner, physician, or physician’s assistant;
f. Documentation of HIV testing annually (results not required).

2. Current Health Provider Certification in Cardiopulmonary Resuscitation for infants, children, and adults. First year students will have until the third week of the semester to complete this certification, which then must be kept current until graduation.

3. Professional liability insurance in the amount of $1 million/$3 million; insurance must be maintained throughout the duration of the student’s enrollment in clinical nursing courses. Specific information regarding acceptable professional liability insurance policies may be obtained directly from the program.

4. Results of a national-level criminal background check.

Students enrolled in clinical courses must provide their own transportation to clinical assignments and will be required to purchase uniforms and specialized equipment. The school assumes no responsibility for illnesses and injuries experienced by students in conjunction with their clinical experiences; students who are injured while completing clinical assignments are responsible for all associated medical costs. It is strongly recommended that students maintain personal medical insurance.

Academic Progress

In order to progress within the Associate of Applied Science Nursing program, students must earn a satisfactory grade (C or higher or P) in all nursing courses. Students who are unable to earn an acceptable grade in a nursing course during their initial enrollment may attempt to earn a satisfactory grade one additional time on a space-available basis. Students enrolled in one course must be concurrently enrolled in all courses with that common number (NURS A120 and NURS A120L; NURS A125 and NURS A125L; NURS A220 and NURS A220L; NURS A222 and NURS A222L; NURS A225 and NURS A225L; NURS A250 and NURS A250L).

The four-semester clinical course sequence, which begins with NURS A120/NURS A120L must be completed within four years.

General University Requirements

1. Complete the General University Requirements for Associate of Applied Science Degrees located at the beginning of this chapter.

2. Complete the Associate of Applied Science General Degree Requirements (15 credits) located at the beginning of this chapter.

Major Requirements

1. Complete the following required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL A111</td>
<td>Human Anatomy and Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>BIOL A112</td>
<td>Human Anatomy and Physiology II</td>
<td>4</td>
</tr>
<tr>
<td>BIOL A240</td>
<td>Introductory Microbiology for Health Sciences</td>
<td>4</td>
</tr>
<tr>
<td>DN A203</td>
<td>Nutrition for Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>NURS A120</td>
<td>Nursing Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>NURS A120L</td>
<td>Nursing Fundamentals Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>NURS A125</td>
<td>Adult Nursing I</td>
<td>3</td>
</tr>
<tr>
<td>NURS A125L</td>
<td>Adult Nursing I Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>NURS A180</td>
<td>Basic Nursing Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>NURS A220</td>
<td>Perinatal Nursing</td>
<td>3</td>
</tr>
<tr>
<td>NURS A220L</td>
<td>Perinatal Nursing Laboratory</td>
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</tr>
<tr>
<td>NURS A221</td>
<td>Advanced Parenteral Therapy Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>NURS A222</td>
<td>Pediatric Nursing</td>
<td>3</td>
</tr>
<tr>
<td>NURS A222L</td>
<td>Pediatric Nursing Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>NURS A225</td>
<td>Adult Nursing II</td>
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</tr>
<tr>
<td>NURS A225L</td>
<td>Adult Nursing II Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>NURS A250</td>
<td>Psychiatric Nursing</td>
<td>3</td>
</tr>
<tr>
<td>NURS A250L</td>
<td>Psychiatric Nursing Laboratory</td>
<td>1</td>
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<tr>
<td>NURS A255</td>
<td>Staff Nurse: Legal, Ethical, and</td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td>Credits</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>Organizational Issues</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>PSY A150 Lifespan Development</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science chosen from General Education List</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

2. A total of 70 credits is required for the degree.
**Associate of Applied Science, Nursing**

Graduates of the Associate of Applied Science Nursing program are prepared to use the nursing process to provide effective nursing services to individuals receiving care in inpatient settings and in structured outpatient settings. The academic program provides students with a closely related mix of theory and clinical practice; students gain experience in hospitals, nursing homes, clinics, and community agencies.

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- Plan, implement, and evaluate care that is safe, evidence-based, caring, and developmentally and culturally sensitive within ethical, legal, and professional standards.
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2. Student attends an advising session with the coordinator of student affairs, School of Nursing. Call (907) 786-4560 for a recorded message.

3. School of Nursing Application and Confidential Required Information Form sent to the coordinator of student affairs, School of Nursing.

4. Three letters of reference sent to the coordinator of student affairs, School of Nursing.

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1. Evidence of:
   a. Immunity to rubella and rubeola, confirmed by titer;
   b. Immunity to hepatitis A and hepatitis B, confirmed by titer (first-semester clinical students may be in the process of completing the immunization series; for those students, documentation of immunity by titer is required prior to entry into second-year courses);
   c. Immunity to chicken pox documented by history, titer or current immunization;
d. Diphtheria/tetanus vaccination within the past 10 years (with booster required at the time of expiration);

e. Freedom from active tuberculosis, documented annually by negative PPD skin test or by health examination by a nurse practitioner, physician, or physician’s assistant;

f. Documentation of HIV testing annually (results not required).

2. Current Health Provider Certification in Cardiopulmonary Resuscitation for infants, children, and adults. First year students will have until the third week of the semester to complete this certification, which then must be kept current until graduation.

3. Professional liability insurance in the amount of $1 million/$3 million; insurance must be maintained throughout the duration of the student’s enrollment in clinical nursing courses. Specific information regarding acceptable professional liability insurance policies may be obtained directly from the program.

4. Results of a national-level criminal background check.

Students enrolled in clinical courses must provide their own transportation to clinical assignments and will be required to purchase uniforms and specialized equipment. The school assumes no responsibility for illnesses and injuries experienced by students in conjunction with their clinical experiences; students who are injured while completing clinical assignments are responsible for all associated medical costs. It is strongly recommended that students maintain personal medical insurance.

**Academic Progress**

In order to progress within the Associate of Applied Science Nursing program, students must earn a satisfactory grade (C or higher or P) in all nursing courses. Students who are unable to earn an acceptable grade in a nursing course during their initial enrollment may attempt to earn a satisfactory grade one additional time on a space-available basis. Students enrolled in one course must be concurrently enrolled in all courses with that common number (NURS A120 and NURS A120L; NURS A125 and NURS A125L; NURS A220 and NURS A220L; NURS A222 and NURS A222L; NURS A225 and NURS A225L; NURS A250 and NURS A250L).

The four-semester clinical course sequence, which begins with NURS A120/NURS A120L must be completed within four years.

**General University Requirements**

1. Complete the General University Requirements for Associate of Applied Science Degrees located at the beginning of this chapter.

2. Complete the Associate of Applied Science General Degree Requirements (15 credits) located at the beginning of this chapter.

**Major Requirements**

1. Complete the following required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL A111</td>
<td>Human Anatomy and Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>BIOL A112</td>
<td>Human Anatomy and Physiology II</td>
<td>4</td>
</tr>
<tr>
<td>BIOL A240</td>
<td>Introductory Microbiology for Health Sciences</td>
<td>4</td>
</tr>
<tr>
<td>DN A203</td>
<td>Nutrition for Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>NURS A120</td>
<td>Nursing Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>NURS A120L</td>
<td>Nursing Fundamentals Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>NURS A125</td>
<td>Adult Nursing I</td>
<td>3</td>
</tr>
<tr>
<td>NURS A125L</td>
<td>Adult Nursing I Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>NURS A180</td>
<td>Basic Nursing Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>NURS A220</td>
<td>Perinatal Nursing</td>
<td>3</td>
</tr>
<tr>
<td>NURS A220L</td>
<td>Perinatal Nursing Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>NURS A221</td>
<td>Advanced Parenteral Therapy Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>NURS A222</td>
<td>Pediatric Nursing</td>
<td>3</td>
</tr>
<tr>
<td>NURS A222L</td>
<td>Pediatric Nursing Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>NURS A225</td>
<td>Adult Nursing II</td>
<td>3</td>
</tr>
<tr>
<td>NURS A225L</td>
<td>Adult Nursing II Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>NURS A250</td>
<td>Psychiatric Nursing</td>
<td>3</td>
</tr>
<tr>
<td>NURS A250L</td>
<td>Psychiatric Nursing Laboratory</td>
<td>1</td>
</tr>
</tbody>
</table>
NURS A255  Staff Nurse: Legal, Ethical, and Organizational Issues  1
PSY A150   Lifespan Development  3
Social Science chosen from General Education List  3

2. A total of 70 credits is required for the degree.
Course Action Request  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN SOENGR</td>
<td>choose one</td>
<td>Geomatics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours (Lecture + Lab)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO</td>
<td>A137</td>
<td>N/A</td>
<td>3</td>
<td>(2+2)</td>
</tr>
</tbody>
</table>

6. Complete Course Title  
Principles of Mapping

Abbreviated Title for Transcript (30 character)

7. Type of Course  
☒ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development

8. Type of Action:  
☐ Add  ☐ Change  ☒ Delete

If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Automatic Restrictions
- Class
- Level
- College
- Major
- Other

9. Repeat Status No  # of Repeats  Max Credits

10. Grading Basis  
☒ A-F  ☐ P/NP  ☐ NG

11. Implementation Date  
semester/year  
From: Fall/2014  To: 99/9999

12. ☐ Cross Listed with  
□ Stacked with  
Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. See attached checksheet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Initiator Name (typed): T.B. Quimby  
Initiator Signed Initials: __________  
Date: __________

13b. Coordination Email  
Date: 1/13/14  
submitted to Faculty Listserv: [uaa-faculty@lists.uaa.alaska.edu](mailto:uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison  
Date: 1/13/14

14. General Education Requirement  
Mark appropriate box:

- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)

- College  ☐ Major  ☐ Class  ☐ Level

17. ☐ Mark if course has fees

18. ☐ Mark if course is a selected topic course

19. Justification for Action  
This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

Initiator (faculty only)  
Jeff Hollingsworth  
Initiator (TYPE NAME)  

☐ Approved  ☐ Disapproved

Dean/Director of School/College  
Date

☐ Approved  ☐ Disapproved

Undergraduate/Graduate Academic  
Date

☐ Approved  ☐ Disapproved

Board Chair  
Date

☐ Approved  ☐ Disapproved

Provost or Designee  
Date

182
## Box 13a

<table>
<thead>
<tr>
<th>Course Being Changed:</th>
<th>Impacted Program or Course</th>
<th>Date of Notification</th>
<th>Chair/Coordinator Contacted</th>
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<td></td>
<td>Geographic Information Systems UC</td>
<td>1/13/14</td>
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<td></td>
<td>Geomatics BS</td>
<td>1/13/14</td>
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<td>Geomatics AAS</td>
<td>1/13/14</td>
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<td>1/13/14</td>
<td>Bart Quimby</td>
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<tr>
<td><strong>1. School or College</strong></td>
<td>EN SOENGR</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1b. Division</strong></td>
<td>choose one</td>
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<td></td>
</tr>
<tr>
<td><strong>1c. Department</strong></td>
<td>Geomatics</td>
<td></td>
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</tr>
<tr>
<td><strong>2. Course Prefix</strong></td>
<td>GEO</td>
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<td></td>
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<tr>
<td><strong>3. Course Number</strong></td>
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<td><strong>4. Previous Course Prefix &amp; Number</strong></td>
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<td></td>
<td></td>
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<td><strong>5a. Credits/CEUs</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>5b. Contact Hours</strong></td>
<td>(Lecture + Lab) (3+0)</td>
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<td><strong>6. Complete Course Title</strong></td>
<td>Geomatics Computations I Geo Comp I</td>
<td></td>
<td></td>
</tr>
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<td><strong>7. Type of Course</strong></td>
<td>Academic</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>8. Type of Action:</strong></td>
<td>Add</td>
<td></td>
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<tr>
<td><strong>9. Repeat Status No</strong></td>
<td># of Repeats</td>
<td>Max Credits</td>
<td></td>
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<tr>
<td><strong>10. Grading Basis</strong></td>
<td>A-F</td>
<td>P/NP</td>
<td>NG</td>
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<td><strong>11. Implementation Date</strong></td>
<td>semester/year</td>
<td>From: Fall/2014 To: 99/9999</td>
<td></td>
</tr>
<tr>
<td><strong>12. Cross Listed with</strong></td>
<td>Stacked with</td>
<td>Cross-Listed Coordination Signature</td>
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<tr>
<td><strong>13a. Impacted Courses or Programs:</strong></td>
<td>List any programs or college requirements that require this course.</td>
<td></td>
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</tr>
<tr>
<td><strong>13b. Coordination Email</strong></td>
<td>Date: 1/13/14 submitted to Faculty Listserv: (<a href="mailto:uaa-faculty@lists.uaa.alaska.edu">uaa-faculty@lists.uaa.alaska.edu</a>)</td>
<td></td>
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</tr>
<tr>
<td><strong>13c. Coordination with Library Liaison</strong></td>
<td>Date: 1/13/14</td>
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<tr>
<td><strong>14. General Education Requirement</strong></td>
<td>Mark appropriate box:</td>
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<tr>
<td></td>
<td>Oral Communication</td>
<td>Written Communication</td>
<td>Quantitative Skills</td>
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<tr>
<td></td>
<td>Fine Arts</td>
<td>Social Sciences</td>
<td>Natural Sciences</td>
</tr>
<tr>
<td><strong>15. Course Description</strong></td>
<td>(suggested length 20 to 50 words)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Introduction to Geomatic principles and methods of computation related to Cartesian coordinate systems, coordinate geometry, subdivision, and area computations. Computations of circular, spiral and vertical curves. Methods of adjusting Geomatics data, and using a current industry standard hand held calculator.</td>
<td></td>
<td></td>
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<tr>
<td><strong>16a. Course Prerequisite(s)</strong></td>
<td>list prefix and number or test code and score</td>
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<td></td>
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<tr>
<td></td>
<td>[MATH A108 or MATH A109 or any MATH course for which MATH A108 or MATH A109 is in the prerequisite chain] and GEO A156] with minimum grade of C</td>
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<td><strong>16b. Co-requisite(s)</strong></td>
<td>concurrent enrollment required</td>
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<tr>
<td></td>
<td>ENGR A161</td>
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<tr>
<td><strong>16c. Automatic Restriction(s)</strong></td>
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<td></td>
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<tr>
<td></td>
<td>College</td>
<td>Major</td>
<td>Class</td>
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<td><strong>16d. Registration Restriction(s)</strong></td>
<td>non-codable</td>
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<td><strong>17. Mark if course has fees Std CoEng Fee &amp; existing course fee</strong></td>
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<tr>
<td><strong>18. Mark if course is a selected topic course</strong></td>
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<tr>
<td><strong>19. Justification for Action</strong></td>
<td>This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.</td>
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<td>Initiator (faculty only)</td>
<td>Initiator (TYPE NAME)</td>
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<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Jeff Hollingsworth</td>
<td></td>
<td></td>
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<th>Initiator (TYPE NAME)</th>
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<th>Date</th>
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<th>Disapproved</th>
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<tr>
<th>Department Chair</th>
<th></th>
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<th>Disapproved</th>
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<table>
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<th>College/School Curriculum Committee Chair</th>
<th></th>
<th>Approved</th>
<th>Disapproved</th>
<th></th>
<th>Date</th>
</tr>
</thead>
</table>
COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: December 4, 2013  Date Revised: January 10, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number: A146
   d. Number of credits and contact hours: 3.0 (3+0)
   e. Course title: Geomatics Computations I
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Introduction to Geomatics principles and methods of computation related to Cartesian coordinate systems, coordinate geometry, subdivision, and area computations. Computations of circular, spiral and vertical curves. Methods of adjusting Geomatics data, and using a current industry standard hand held calculator.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      - Co-requisite: ENGR A161
      - Prerequisites: [[MATH A108 or MATH A109 or any MATH course for which MATH A108 or MATH A109 is in the prerequisite chain] and GEO A156] with a minimum grade of C.
   m. Course fees: Yes, standard CoEng and an existing course fee

III. Course Level Justification

Introduces basic knowledge and skills needed for further study in Geomatics.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals:
   The instructor will:
   1. Explain line intersection computations
   2. Explain Geomatics adjustments
   3. Explain area partitioning computations
   4. Explain circular, vertical and spiral curve computations
B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Demonstrate the ability to conduct line intersection computations</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>B. Demonstrate skill in Geomatics adjustments</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>C. Demonstrate the ability to conduct area partitioning computations</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>D. Demonstrate the ability to conduct circular, vertical and spiral curve computations</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>E. Recognize the concepts and functions of a current industry standard hand held calculator.</td>
<td>Assignments, Exams, Project</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Coordinate Geometry
   1.1. Line intersections
       1.1.1. Bearing/bearing
       1.1.2. Bearing/distance
       1.1.3. Distance/distance
   1.2. 3 point resection

2. Partitioning of Land
   2.1. From a given point
   2.2. From a given direction

3. Curves
   3.1. Horizontal curves
   3.2. Vertical curves
   3.3. Spiral curves

4. Methods of Data Adjustment

5. Introduction to the Industry Standard Hand Held Calculator
   5.1. Hierarchy
   5.2. Built-in functions
   5.3. Computations
VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:


# Proposal to Initiate, Add, Change, or Delete a Course

**Course Action Request**

**University of Alaska Anchorage**

### 1a. School or College
EN SOENGR

### 1b. Division
choose one

### 1c. Department
Geomatics

### 2. Course Prefix
GEO

### 3. Course Number
A155

### 4. Previous Course Prefix & Number
N/A

### 5a. Credits/CEUs
3

### 5b. Contact Hours
(Lecture + Lab) (2+3)

### 6. Complete Course Title
Introduction to Surveying

### 7. Type of Course
☒ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development

### 8. Type of Action:
☒ Add  ☐ Change  ☐ Delete

If a change, mark appropriate boxes:

- ☐ Prefix
- ☐ Credits
- ☒ Title
- ☐ Grading Basis
- ☒ Course Description
- ☐ Test Score Prerequisites
- ☐ Automatic Restrictions
- ☐ Class
- ☐ Level
- ☐ College
- ☐ Major
- ☐ Other (please specify)

### 9. Repeat Status No

### 10. Grading Basis
☒ A-F  ☐ P/NP  ☐ NG

### 11. Implementation Date
From: Fall/2014  To: 99/9999

### 12. Cross Listed with

- ☐ Stacked with

- ☒ Cross-Listed Coordination Signature

### 13a. Impacted Courses or Programs:
List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

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<tr>
<th>Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. AAS, Geomatics</td>
<td>N/A</td>
<td>T. B. Quimby</td>
</tr>
<tr>
<td>2. BS, Geomatics</td>
<td>N/A</td>
<td>T. B. Quimby</td>
</tr>
<tr>
<td>3. BS, Civil Engineering</td>
<td>1/13/14</td>
<td>O. Abaza</td>
</tr>
</tbody>
</table>

Initiator Name (typed): T. B. Quimby  Initiator Signed Initials: _________  Date:__________

### 13b. Coordination Email
Date: 1/13/14

submitted to Faculty Listserv: [uae-faculty@lists.uaa.alaska.edu](mailto:uae-faculty@lists.uaa.alaska.edu)

### 13c. Coordination with Library Liaison
Date: 1/13/14

### 14. General Education Requirement

<table>
<thead>
<tr>
<th>Mark appropriate box:</th>
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<tbody>
<tr>
<td>☐ Oral Communication</td>
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<tr>
<td>☐ Written Communication</td>
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<td>☐ Quantitative Skills</td>
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<tr>
<td>☐ Humanities</td>
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<tr>
<td>☐ Fine Arts</td>
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<tr>
<td>☐ Social Sciences</td>
</tr>
<tr>
<td>☐ Natural Sciences</td>
</tr>
<tr>
<td>☐ Integrative Capstone</td>
</tr>
</tbody>
</table>

### 15. Course Description
*(suggested length 20 to 50 words)*

Orientation and introduction to field surveying theory and techniques for non-Geomatics majors. Subject areas include distance measurement, leveling, angular measurements, basic traversing, measurement adjustments, fundamentals of mapping, use and care of surveying instruments.

### 16a. Course Prerequisite(s)
*(list prefix and number or test code and score)*

### 16b. Co-requisite(s)
*(concurrent enrollment required)*

[MATH A108 or MATH A109 or any math course for which MATH A108 or MATH A109 is in the prerequisite chain] with minimum grade of C

### 16c. Automatic Restriction(s)

- ☐ College
- ☐ Major
- ☐ Class
- ☐ Level

### 16d. Registration Restriction(s)
*(non-codable)*

### 17. Mark if course has fees Std CoEng Fee and existing course fee

### 18. Mark if course is a selected topic course

### 19. Justification for Action

This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

Initiator (faculty only)

**Jeff Hollingsworth**

Initiator (TYPE NAME)  Date

- ☐ Approved  ☐ Disapproved  Dean/Director of School/College  Date

- ☐ Approved  ☐ Disapproved  Undergraduate/Graduate Academic  Date

- ☐ Approved  ☐ Disapproved  Board Chair  Date

- ☐ Approved  ☐ Disapproved  Provost or Designee  Date
Box 13a

<table>
<thead>
<tr>
<th>Course Being Changed:</th>
<th>GEO A155</th>
<th>Introduction to Surveying (formerly Fundamentals of Surveying)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impacted Program or Course</td>
<td>Date of Notification</td>
<td>Chair/Coordinator Contacted (not listerve)</td>
</tr>
<tr>
<td>Civil Engineering, BS</td>
<td>1/13/14</td>
<td>Osama Abaza</td>
</tr>
<tr>
<td>Geomatics BS</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>Geomatics AAS</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>GEO A158</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>GEO A256</td>
<td>1/13/14</td>
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<tr>
<td>GEO A266</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>GEO A267</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
</tbody>
</table>
COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: December 4, 2013  Date Revised: January 10, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number: A155
   d. Number of credits and contact hours: 3.0 (2+3)
   e. Course title: Introduction to Surveying
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Orientation and introduction to field surveying theory and techniques for non-Geomatics majors. Subject areas include distance measurement, leveling, angular measurements, basic traversing, measurement adjustments, fundamentals of mapping, use and care of surveying instruments.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Corequisite: [MATH A108 or MATH A109 or any math course for which MATH A108 or MATH A109 is in the prerequisite chain] with a minimum grade of C.
   m. Course fees: Yes, standard CoEng and a course fee

III. Course Level Justification

Introduces basic knowledge and skills in the field of Geomatics.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals.

The instructor will:
   1. Explain and demonstrate how to set up and measure with conventional survey instruments
   2. Explain how to perform elementary geomatics computations
   3. Explain how surveying interacts to engineering related disciplines
B. Student Learning Outcomes & Assessment

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Set up and measure with basic survey instruments</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>B. Conduct elementary geomatics computations</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>C. Present their findings in written and oral format</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>D. Demonstrate an understanding of how surveying interacts with engineering related disciplines</td>
<td>Assignments, Exams, Project</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. General Campus Safety / Emergency Evacuation
2. Note Keeping
3. Differential Leveling
4. Distance Measurement
5. Angular Measurement
6. Basic Traversing
7. Elementary Geomatic Computations
8. Basic Mapping Fundamentals

VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:

Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
EN SOENGR

1b. Division
choose one

1c. Department
Geomatics

2. Course Prefix
GEO

3. Course Number
A156

4. Previous Course Prefix & Number
N/A

5a. Credits/CEUs
3

5b. Contact Hours
(Lecture + Lab)
(2+3)

6. Complete Course Title
Fundamentals of Surveying

Abbreviated Title for Transcript (30 character)

7. Type of Course
☒ Academic
☐ Preparatory/Development
☐ Non-credit
☐ CEU
☐ Professional Development

8. Type of Action:
☒ Add
☐ Change
☐ Delete

If a change, mark appropriate boxes:
☐ Prefix
☐ Credits
☐ Title
☐ Grading Basis
☐ Course Description
☐ Test Score Prerequisites
☐ Automatic Restrictions
☐ Class
☐ Level
☐ College
☐ Other
☐ Course Number
☐ Contact Hours
☐ Repeat Status
☐ Cross-Listed/Stacked
☐ Course Prerequisites
☐ Co-requisites
☐ Registration Restrictions
☐ General Education Requirement

9. Repeat Status No

# of Repeats

Max Credits

10. Grading Basis
☒ A-F
☐ P/NC
☐ NG

11. Implementation Date
Semester/year
From: Fall/2014
To: 99/9999

12. ☐ Cross Listed with
☐ Stacked with

Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

Impacted Program/Course
Date of Coordination
Chair/Coordinator Contacted
1. AAS, Geomatics
N/A
T. B. Quimby
2. BS, Geomatics
N/A
T. B. Quimby
3.

Initiator Name (typed): T. B. Quimby
Initiator Signed Initials: _________
Date: __________

13b. Coordination Email
Date: 1/13/14

submitted to Faculty Listserv: (uae-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
Date: 1/13/14

14. General Education Requirement
Mark appropriate box:
☐ Oral Communication
☐ Written Communication
☐ Quantitative Skills
☐ Humanities
☐ Fine Arts
☐ Social Sciences
☐ Natural Sciences
☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)
Fundamentals of Geomatics and survey measurement theory and techniques for Geomatics majors. Subject areas include taping, tape corrections, leveling, angle measurements, traversing, traverse adjustments, contouring, fundamentals of mapping, and proper use and care of surveying instruments.

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)
[MATH A108 or MATH A109 or any math course for which MATH A108 or MATH A109 is in the prerequisite chain] with minimum grade of C

16c. Automatic Restriction(s)
☐ College
☐ Major
☐ Class
☐ Level

16d. Registration Restriction(s) (non-codable)

17. ☒ Mark if course has fees Std CoEng Fee and course fee

18. ☐ Mark if course is a selected topic course

19. Justification for Action
This course is being added as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator (faculty only)
Jeff Hollingsworth
Initiator (TYPE NAME)

☐ Approved
☐ Disapproved
Date

Dean/Director of School/College
Date

Undergraduate/Graduate Academic
Date

Board Chair
Date

Provost or Designee
Date

Provost or Designee
Date
I. Date Initiated: December 4, 2013  Date Revised: January 10, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number: A156
   d. Number of credits and contact hours: 3.0 (2+3)
   e. Course title: Fundamentals of Surveying
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Fundamentals of Geomatics and survey measurement theory and techniques for Geomatics majors. Subject areas include taping, tape corrections, leveling, angle measurements, traversing, traverse adjustments, contouring, fundamentals of mapping, and proper use and care of surveying instruments.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions: Corequisite: [MATH A108 or MATH A109 or any math course for which MATH A108 or MATH A109 is in the prerequisite chain] with a minimum grade of C.
   m. Course fees: Yes, standard CoEng fee and a course fee

III. Course Level Justification

Introduces basic knowledge and skills needed for further study in Geomatics.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals.

   The instructor will:
   1. Explain and demonstrate how to set up and measure with conventional survey instruments
   2. Explain how to perform geomatics computations
B. Student Learning Outcomes & Assessment:

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<tr>
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<tr>
<td>Upon successful completion of this course a student will be able to:</td>
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</tr>
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</tr>
<tr>
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<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>C. Present their findings in written and oral format</td>
<td>Assignments, Exams, Project</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. General Campus Safety / Emergency Evacuation
   1.1. Vehicle traffic hazards during Geomatics measurements
   1.2. Proper use and disposal of rechargeable batteries
   1.3. Electrical hazards during Geomatics measurements
   1.4. Field safety
   1.5. Survey equipment safety
   1.6. Computer concerns and ergonomics
   1.7. Moose and Bear safety

2. Note Keeping
   2.1. Importance of note keeping
   2.2. Proper procedure for note keeping
   2.3. Note keeping format and contents
   2.4. Field book sketches

3. Differential Leveling
   3.1. Note keeping for leveling operations
   3.2. Basic use of leveling equipment
   3.3. Trig leveling
   3.4. Precise leveling
   3.5. Profile leveling
   3.6. Peg test
   3.7. Errors in leveling
   3.8. Adjustment methods
   3.9. Procedures for performing various leveling tasks

4. Angular Measurement
   4.1. Basic use of theodolites
   4.2. Basic use of total stations
   4.3. Errors in angle measurement
4.4. Testing of theodolites
4.5. Testing of total stations
4.6. Procedures for accomplishing various tasks with theodolites and total stations

5. Distance Measurement
5.1. Basic use of measurement tapes
5.2. Electronic distance measurement and theory
5.3. Distant measurement corrections

6. Traversing
6.1. Traversing techniques
6.2. Horizon closures
6.3. Direct and indirect angles
6.4. Note keeping for traverses
6.5. Traversing with total stations
6.6. Traverse adjustments

7. Geomatics Computations
7.1. Decimal degree/degrees-minutes-seconds conversions
7.2. Azimuth/bearing conversions
7.3. Taping corrections
7.4. EDM slope to horizontal distance reduction
7.5. Magnetic compass computations
7.6. Area computations
   7.6.1. DMS’s
   7.6.2. Coordinates

VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:


# Proposal to Initiate, Add, Change, or Delete a Course

**Class Name:** Computer-Aided Drafting for Surveyors  
**Abbreviated Title for Transcript:** CAD for Surveyors

<table>
<thead>
<tr>
<th>1. School or College</th>
<th>EN SOENGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Course Prefix</td>
<td>GEO</td>
</tr>
<tr>
<td>3. Course Number</td>
<td>A157</td>
</tr>
</tbody>
</table>

**Course Description:**
Introduction to the knowledge and skills necessary to create maps and plats using computer aided drafting. Topics of study include basic drafting principles, drawing set up and scale, drawing commands, digital terrain modeling and accuracies.

**General Education Requirement:**  
- Oral Communication  
- Written Communication  
- Quantitative Skills  
- Social Sciences  
- Natural Sciences  
- Integrative Capstone

**Course Prerequisite(s):**
- GEO A156 with minimum grade of C

**Automatic Restrictions:**
- College  
- Major  
- Class  
- Level

**Restriction(s):**
- Co-requisites

**Course Fee:**
- Mark if course has fees

**Repeatability:**
- No  
- # of Repeats  
- Max Credits

**Implementation Date:**
- From: Fall/2014  
- To: 99/9999

**Registration Restrictions:**
- Cross Listed with
- Stacked with

**Initiator Name:** T.B. Quimby  
**Initiator Signed Initials:**

**Coordinator:**  
**Date:**

**College/School Curriculum Committee Chair:**  
**Date:**

**Dean/Director of School/College:**  
**Date:**

**Undergraduate/Graduate Academic:**  
**Date:**

**Board Chair:**  
**Date:**

**Provost or Designee:**  
**Date:**

---

**Initiator (faculty only):** Jeff Hollingsworth
### Box 13a

<table>
<thead>
<tr>
<th>Course Being Changed:</th>
<th>GEO A157</th>
<th>Computer Aided Drafting for Surveyors (formerly Analytical and Digital Cartography)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Impacted Program or Course</strong></td>
<td><strong>Date of Notification</strong></td>
<td><strong>Chair/Coordinator Contacted</strong></td>
</tr>
<tr>
<td>Natural Sciences BS</td>
<td>1/13/14</td>
<td>Khrys Duddleston</td>
</tr>
<tr>
<td>Geomatics BS</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
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<tr>
<td>Geomatics AAS</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
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<td>GEO A248</td>
<td>1/13/14</td>
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<td>GEO A257</td>
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<td>GEO A266</td>
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<tr>
<td>GEO A358</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
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</table>
I. Date Initiated: December 4, 2013 Date Revised: January 10, 2014

II. Course Information

a. College: EN
b. Course prefix: GEO
c. Course number A157
d. Number of credits and contact hours: 3.0 (2+2)
e. Course title: Computer-Aided Drafting for Surveyors
f. Grading Basis: A-F
g. Implementation date: Fall 2014
h. Cross listing: None
i. Stacking None
j. Course Description: Introduction to the knowledge and skills necessary to create maps and plats using computer aided drafting. Topics of study include basic drafting principles, drawing set-up and scale, drawing commands, digital terrain modeling and mapping standards and accuracies.
k. Course attributes: None
l. Course registration prerequisites/restrictions:
   Prerequisite: GEO A156 with a minimum grade of C.
m. Course fees: Yes, standard CoEng and a course fee

III. Course Level Justification

Introduces basic knowledge and skills needed for further study in Geomatics.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals.

   The instructor will explain how to:
   1. Create and manage drawings using industry standard CAD software and standards
   2. Edit & create styles and settings; create, import, analyze, and manipulate points
   3. Import and edit electronic data collection files; create point groups; create description keys
   4. Draw lines and curves; label points, annotate features, lines and curves; subdivide land
   5. Create, edit and analyze terrain models; generate volumes between terrain models
6. Create horizontal alignments; create existing and design profiles and cross sections

B. Student Learning Outcomes & Assessment

<table>
<thead>
<tr>
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<td>C. Import and edit electronic data collection files, create point groups, and create description keys.</td>
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<td>D. Draw lines and curves, label points, annotate features, lines and curves, and subdivide land.</td>
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<tr>
<td>E. Create, edit and analyze terrain models and generate volumes between terrain models.</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>F. Create horizontal alignments, create existing and design profiles, and cross sections.</td>
<td>Assignments, Exams, Project</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Basics of Computer Aided Drafting

2. Computer Mapping Commands
   2.1. Concepts and definitions
   2.2. Mapping commands
   2.3. Display controls
   2.4. Dimensioning
   2.5. Notes
   2.6. Layers

3. Proper File Management and Project Setup

4. Surveying Drafting using National CAD Standards

5. Importing Survey Points
6. Creating and Analyzing Surfaces

7. Creating Subdivision Lots and Parcels

8. Alignment Creation

9. Profile and Cross-section Creation

10. Creating Corridors

11. Earthwork Volume from Digital Models

12. Import Aerial Imagery from Google Earth

13. Plotting Techniques
   13.1. Printer/plotter
   13.2. Plot styles

14. Survey Projects

VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:

### Course Action Request
**University of Alaska Anchorage**  
Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>EN SOENGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1b. Division</td>
<td>choose one</td>
</tr>
<tr>
<td>1c. Department</td>
<td>Geomatics</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>GEO</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Course Number</td>
<td>A158</td>
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<tr>
<td>4. Previous Course Prefix &amp; Number</td>
<td>N/A</td>
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<tr>
<td>5a. Credits/CEUs</td>
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<tr>
<td>5b. Contact Hours (Lecture + Lab)</td>
<td>(0+2)</td>
</tr>
</tbody>
</table>

**Complete Course Title**  
Geomatics Computer Fundamentals  
Geo Computer Fundamentals  
Abbreviated Title for Transcript (30 character)

| 6. Type of Course | ☐ Academic | ☐ Preparatory/Development | ☐ Non-credit | ☐ CEU | ☐ Professional Development |

| 8. Type of Action: | ☐ Add | or | ☐ Change | or | ☐ Delete |

If a change, mark appropriate boxes:

- ☐ Prefix
- ☐ Credits
- ☐ Title
- ☐ Grading Basis
- ☐ Course Description
- ☐ Test Score Prerequisites
- ☐ Automatic Restrictions
- ☐ Class
- ☐ College
- ☐ Other
- ☐ Course Number
- ☐ Contact Hours
- ☐ Repeat Status
- ☐ Cross-Listed/Stacked
- ☐ Course Prerequisites
- ☐ Registration Restrictions
- ☐ General Education Requirement

| 9. Repeat Status No | # of Repeats | Max Credits |

| 10. Grading Basis | ☐ A-F | ☐ P/NP | ☐ NG |

| 11. Implementation Date | semester/year |

From: Fall/2014  
To: 99/9999

| 12. Cross Listed with | ☐ Stacked with |

Cross-Listed Coordination Signature

| 13a. Impacted Courses or Programs: | List any programs or college requirements that require this course.  
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance. |

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. AAS, Geomatics</td>
<td>N/A</td>
<td>T.B. Quimby</td>
</tr>
<tr>
<td>2. BS, Geomatics</td>
<td>N/A</td>
<td>T.B. Quimby</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Initiator Name (typed): **T.B. Quimby**  
Initiator Signed Initials: _________  
Date: __________________

<table>
<thead>
<tr>
<th>13b. Coordination Email</th>
<th>Date: 1/13/14</th>
<th>13c. Coordination with Library Liaison</th>
<th>Date: 1/13/14</th>
</tr>
</thead>
</table>

submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

<table>
<thead>
<tr>
<th>14. General Education Requirement</th>
<th>Oral Communication</th>
<th>Written Communication</th>
<th>Quantitative Skills</th>
<th>Humanities</th>
</tr>
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<tr>
<td>Mark appropriate box:</td>
<td>Fine Arts</td>
<td>Social Sciences</td>
<td>Natural Sciences</td>
<td>Integrative Capstone</td>
</tr>
</tbody>
</table>

| 15. Course Description (suggested length 20 to 50 words) |

| 16a. Course Prerequisite(s) (list prefix and number or test code and score) |
| 16b. Co-requisite(s) (concurrent enrollment required) |

| 16c. Automatic Restriction(s) | ☐ College | ☐ Major | ☐ Class | ☐ Level |
| 16d. Registration Restriction(s) (non-codable) |

| 17. ☐ Mark if course has fees |
| 18. ☐ Mark if course is a selected topic course |

| 19. Justification for Action |

This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

Initiator (faculty only)  
**Jeff Hollingsworth**  
Initiator (TYPE NAME)  
☐ Approved  
☐ Disapproved

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## Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

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<th>5b. Contact Hours</th>
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<td>GEO</td>
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<td>(3+0)</td>
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<table>
<thead>
<tr>
<th>6. Complete Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geomatics Computations II</td>
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<tr>
<td>Geo Comp II</td>
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<table>
<thead>
<tr>
<th>7. Type of Course</th>
<th>Academic</th>
<th>Preparatory/Development</th>
<th>Non-credit</th>
<th>CEU</th>
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If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Automatic Restrictions
- Other (please specify)

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<td>To: 99/9999</td>
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Stacked with |

Cross-Listed Coordination Signature

### 13a. Impacted Courses or Programs
List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

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<thead>
<tr>
<th>Impacted Program/Course</th>
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</table>

Initiator Name (typed): T.B. Quimby
Initiator Signed Initials: _________
Date: __________________

### 13b. Coordination Email
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

**Date:** 1/13/14

### 13c. Coordination with Library Liaison
**Date:** 1/13/14

### 14. General Education Requirement
Mark appropriate box:

- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

### 15. Course Description (suggested length 20 to 50 words)
The course is a continuation of Geomatics Computations I. Principles and methods of Geomatics computations, coordinate transformations, spherical coordinate systems as applied to spherical astronomy and an introduction to the mathematical techniques used in Geographic Information Systems (GIS).

### 16a. Course Prerequisite(s) (list prefix and number or test code and score)
- GEO A146
- MATH A201 or MATH A272 (or any MATH course for which MATH A201 or MATH A272 is in the prerequisite chain) with minimum grade of C.

### 16b. Co-requisite(s) (concurrent enrollment required)

### 16c. Automatic Restriction(s)
- College
- Major
- Class
- Level

### 16d. Registration Restriction(s) (non-codable)

### 17. Mark if course has fees Std CoEng Fee & new course fee

### 18. Mark if course is a selected topic course

### 19. Justification for Action
This course is being added as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.
<table>
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<th>Date</th>
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<th>Date</th>
<th>Approved</th>
<th>Disapproved</th>
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<th>Date</th>
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205
COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: December 4, 2013 Date Revised: January 10, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number: A246
   d. Number of credits and contact hours: 3.0 (3+0)
   e. Course title: Geomatics Computations II
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: The course is a continuation of Geomatics Computations I. Principles and methods of Geomatics computations, coordinate transformations, spherical coordinate systems as applied to spherical astronomy and an introduction to the mathematical techniques used in Geographic Information Systems (GIS).
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Prerequisites: [GEO A146 and [MATH A201 or MATH A272 or any MATH course for which MATH A201 or MATH A272 is in the prerequisite chain]] with minimum grade of C.
   m. Course fees: Yes, standard CoEng and a course fee

III. Course Level Justification

   This course builds on the concepts introduced in the prerequisite courses.

IV. Instructional Goals and Student Learning Outcomes:

   A. Instructional Goals:
      The instructor will:
      1. Explain mathematical techniques used in GIS, Remote Sensing and Geomatics
      2. Illustrate the use of matrix algebra in photogrammetry and other Geomatics applications
      3. Illustrate the use of differential and integral calculus in error propagation in Geomatics
      4. Explain how to perform coordinates transformations. Illustrate the use of spherical coordinate systems in geodetic astronomy
B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
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</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
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<tr>
<td>A. Recognize and interpret mathematical techniques used in GIS, remote sensing, and Geomatics</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>B. Demonstrate the use of matrix algebra in photogrammetry and other Geomatics applications.</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>C. Demonstrate the use of differential and integral calculus in error propagation in Geomatics.</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>D. Perform coordinate transformations</td>
<td>Assignments, Exams, Project</td>
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<tr>
<td>E. Demonstrate the use of spherical coordinate systems in geodetic astronomy</td>
<td>Assignments, Exams, Project</td>
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</table>

V. Typical Course Outline

1. Characteristics of Geographic Information
   1.1. Geographic information and data
   1.2. Categories of data
   1.3. Spatial referencing
   1.4. Lines and shapes

2. Review and Application of Numbers And Numerical Analysis
   2.1. The use of numbers in Geomatics
   2.2. The binary system: Image processing and data storage in remote sensing
   2.3. Square roots: Root Mean Square Error (RMSE)
   2.4. Indices and logarithms: aid in distance calculations
   2.5. Applied numerical analysis

3. Review and Application of Algebra-Treating Numbers as Symbols
   3.1. The Theorem of Pythagoras: distance calculation on the plane
   3.2. The equations for intersecting lines: Application in GIS geoprocessing tools
   3.3. Points in polygons for line smoothing in GIS
   3.4. The equation for a plane: use for orientation of an image in photogrammetry
   3.5. Further algebraic equations: Application in GIS geoprocessing tools
   3.6. Functions and graphs usage in GIS analysis
3.7. Interpolating intermediate values of Geomatics measurements: surface reconstruction

4. Review and Application of The Geometry Of Common Shapes
   4.1. Triangles and TIN models
   4.2. Polygons: GIS geoprocessing
   4.3. The sphere and the ellipse for geodetic computations

5. Review and Application of Plane And Spherical Trigonometry
   5.1. Basic plane trigonometric functions used in Geomatics
   5.2. Bearings and distances
   5.3. Spherical trigonometry

6. Review and Application of Differential And Integral Calculus
   6.1. Differentiating trigonometric functions: Error propagation
   6.2. Polynomial functions in Geomatics and GIS
   6.3. Integration in geodetic surveying

7. Review and Application of Matrices, Determinants And Vectors
   7.1. Basic matrix operations for spatial adjustments and photogrammetry
   7.2. Rotations and translations

8. Review and Application of Curves And Surfaces
   8.1. Parametric forms for geodesy
   8.2. The ellipse in geodesy
   8.3. Radius of curvature in geodesy
   8.4. Fitting curves to points in photogrammetry
   8.5. The Bezier curve for contour smoothing in GIS

9. Concepts of Coordinate Transformations and Projections
   9.1. Homogeneous coordinates: two dimensional and three dimensional transformations
   9.2. Affine
   9.3. Four Parameter
   9.4. Concepts of transformations in projections
VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:

Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
EN SOENGR

1b. Division
choose one

1c. Department
Geomatics

2. Course Prefix
GEO

3. Course Number
A248

4. Previous Course Prefix & Number
N/A

5a. Credits/CEUs
3

5b. Contact Hours
(Lecture + Lab)
(2+2)

6. Complete Course Title
Digital Terrain Cartography

Abbreviated Title for Transcript (30 character)

7. Type of Course
☒ Academic ☐ Preparatory/Development ☐ Non-credit ☐ CEU ☐ Professional Development

8. Type of Action:
☐ Add ☐ Change ☒ Delete

9. Repeat Status No

10. Grading Basis
☒ A-F ☐ P/NP ☐ NG

11. Implementation Date
From: Fall/2014 To: 99/9999

12. Cross Listed with
☒ Stacked with

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

<table>
<thead>
<tr>
<th>Impact Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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Initiator Name (typed): T.B. Quimby

Initiator Signed Initials: __________

Date: __________

13b. Coordination Email
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
Date: 1/13/14

14. General Education Requirement
Mark appropriate box:
☒ Oral Communication ☐ Written Communication ☐ Quantitative Skills ☐ Humanities
☐ Fine Arts ☐ Social Sciences ☐ Natural Sciences ☒ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)
☒ College ☐ Major ☐ Class ☐ Level

16d. Registration Restriction(s) (non-codable)

17. ☐ Mark if course has fees

18. ☐ Mark if course is a selected topic course

19. Justification for Action
This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

Initiator (faculty only)
Jeff Hollingsworth

Initiator (TYPE NAME)

☑ Approved ☐ Disapproved

Date

☐ Approved ☐ Disapproved

Dean/Director of School/College

Date

☐ Approved ☐ Disapproved

Undergraduate/Graduate Academic

Date

☐ Approved ☐ Disapproved

Board Chair

Date

☑ Approved ☐ Disapproved

Provost or Designee

Date
### Box 13a

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<td>1/13/14</td>
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<td>Geomatics AAS</td>
<td>1/13/14</td>
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<td>1c. Department</td>
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<th>5b. Contact Hours (Lecture + Lab)</th>
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<th>6. Complete Course Title</th>
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<td>Engineering Surveying</td>
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<td>Engr Surveying</td>
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Abbreviated Title for Transcript (30 character): Engr Surveying

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<th>7. Type of Course</th>
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<th>8. Type of Action:</th>
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If a change, mark appropriate boxes:

- Prefix
- Credits
- Course Number
- Contact Hours
- Repeat Status
- Grading Basis
- Cross-Listed/Stacked
- Course Description
- Course Prerequisites
- Test Score Prerequisites
- Co-requisites
- Automatic Restrictions
- Registration Restrictions
- General Education Requirement
- Class
- Level
- College
- Major
- Other

9. Repeat Status No

# of Repeats

Max Credits

10. Grading Basis

A-F

P/NP

NG

11. Implementation Date

From: Fall/2014
To: 99/9999

12. Cross Listed with

Stacked with

Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

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Initiator Name (typed): T.B. Quimby

Initiator Signed Initials: ________ Date: __________

13b. Coordination Email

Date: 1/13/14

submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison

Date: 1/13/14

14. General Education Requirement

Oral Communication

Written Communication

Quantitative Skills

Humanities

Fine Arts

Social Sciences

Natural Sciences

Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

Theory and application of engineering surveying, including design and implementation of horizontal and vertical control, route surveys, horizontal and vertical curves, control surveys, quantity surveys, and mining surveys. Application of the theory of errors, error budgets, error simulation and calibration.

16a. Course Prerequisite(s) (list prefix and number or test code and score)

GEO A266 with a minimum grade of C.

16b. Co-requisite(s) (concurrent enrollment required)

GEO A265

16c. Automatic Restriction(s)

College

Major

Class

Level

16d. Registration Restriction(s) (non-codable)

17. Mark if course has fees Std CoEng Fee and existing course fee

18. Mark if course is a selected topic course

19. Justification for Action

This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator (faculty only)

Jeff Hollingsworth

Initiator (TYPE NAME)  Date  Dean/Director of School/College  Date

Approved

Disapproved

Undergraduate/Graduate Academic  Date

Approved

Disapproved

Board Chair  Date

Approved

Disapproved

Provost or Designee  Date

Approved

Disapproved

College/School Curriculum Committee Chair  Date

Approved

Disapproved

Department Chair  Date

Approved

Disapproved
### Box 13a

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<td><strong>Chair/Coordinator Contacted</strong> (not listerv)</td>
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<td>1/13/14</td>
<td>Bart Quimby</td>
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<td>GEO A490</td>
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COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: December 4, 2013    Date Revised: January 10, 2014

II. Course Information
    a. College: EN
    b. Course prefix: GEO
    c. Course number: A256
    d. Number of credits and contact hours: 3.0 (2+3)
    e. Course title: Engineering Surveying
    f. Grading Basis: A-F
    g. Implementation date: Fall 2014
    h. Cross listing: None
    i. Stacking: None
    j. Course Description: Theory and application of engineering surveying, including design and implementation of horizontal and vertical control, route surveys, horizontal and vertical curves, control surveys, quantity surveys, and mining surveys. Application of the theory of errors, error budgets, error simulation and calibration.
    k. Course attributes: None
    l. Course registration prerequisites/restrictions:
        Prerequisite: GEO A266 with a minimum grade of C
        Corequisite: GEO A265
    m. Course fees: Yes, standard CoEng and a course fee

III. Course Level Justification

This is a third course in surveying Geomatics, which builds on earlier Geomatics and Math courses.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals.
The instructor will:
    1. Explain the fundamentals of providing control for engineering surveying.
    2. Explain the theory of errors, error budgets, error simulation and calibration.
    3. Demonstrate designing, computing and laying out a variety of horizontal and vertical curves.
    4. Explain how to design and undertake surveys for volume and area determination.
    5. Explain the fundamentals of mining surveys.
6. Explain the fundamentals of route surveys.

B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td>Typical Assessment Methods</td>
</tr>
<tr>
<td>A. Recognize the fundamentals of control for engineering surveying.</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>B. Demonstrate use of the theory of errors, error budgets, error simulation, and calibration.</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>C. Design, compute, and lay out a variety of horizontal and vertical curves</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>D. Design and perform a survey for volume and area determination.</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>E. Recognize the fundamentals of mining surveys.</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>F. Recognize the fundamentals of utility, construction, and route surveys.</td>
<td>Assignments, Exams, Project</td>
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V. Typical Course Outline

1. Survey Control
   1.1. Horizontal and vertical control
   1.2. Control methods for engineering surveys
   1.3. Quality and reliability of control
   1.4. Errors and their propagation
   1.5. Calibration of Survey Instruments and devices

2. Curves
   2.1. Horizontal curves
   2.2. Transition curves / spirals
   2.3. Vertical curves
   2.4. Design and staking positions

3. Quantity Surveys
   3.1. Area determination and calculation
   3.2. Volume determination and calculation
   3.3. Cuts and fills
   3.4. Laser and Global Navigation Satellite System (GNSS) controlled construction
4. Utility and Construction Surveys
   4.1. Road surveys
   4.2. Utility surveys
   4.3. Line and grade
   4.4. Building construction surveys
   4.5. As-built surveys

5. Mining Surveying
   5.1. Terminology and methods
   5.2. Azimuth and location transfer
   5.3. Borehole measurements
   5.4. Surveys for geophysical exploration

VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:


Course Action Request  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
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<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
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6. Complete Course Title  
Spatial Data Adjustments I  
Spatial Data Adj I  
Abbreviated Title for Transcript (30 character)

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</table>

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.  
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.  

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Initiator Signed Initials: ___________  
Date: ___________

13b. Coordination Email:  
Date: 1/13/14  
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)  
13c. Coordination with Library Liaison:  
Date: 1/13/14  

14. General Education Requirement  
Mark appropriate box:  
- Oral Communication  
- Written Communication  
- Quantitative Skills  
- Humanities  
- Fine Arts  
- Social Sciences  
- Natural Sciences  
- Integrative Capstone

16a. Course Prerequisite(s) (list prefix and number or test code and score)  
(GEO A246 and STAT A253) with a minimum grade of C.  

16b. Co-requisite(s) (concurrent enrollment required)  

16c. Automatic Restriction(s)  
Mark if course has fees Std CoEng fee & existing course fee  
16d. Registration Restriction(s) (non-codable)  

18. Mark if course is a selected topic course

19. Justification for Action  
This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.
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I. Date Initiated: December 4, 2013  Date Revised: January 10, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number: A265
   d. Number of credits and contact hours: 3.0 (3+0)
   e. Course title: Spatial Data Adjustments I
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Fundamental concepts of statistical error analysis with applications to surveying measurements. Fundamental properties of data sets including measures of central tendency and measures of data variation are covered. Sampling distribution theory, statistical confidence intervals and testing, propagation of variance. Introduction to least squares adjustment.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Prerequisites: [GEO A246 and STAT A253] with a minimum grade of C.
   m. Course fees: Yes, standard CoEng and a course fee

III. Course Level Justification

   Builds on basic mathematical and statistical skills for Geomatics specific applications.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals:
   The instructor will explain:
   1. The nature of errors in Geomatics data
   2. How errors propagate through spatial data processes
   3. How to model error propagation and develop an error budget
   4. The fundamentals of least squares adjustment as they apply in the Geomatics disciplines
   5. How to design and develop least squares adjustment for a wide range of Geomatics measurements
   6. How to undertake least squares adjustments for various Geomatics applications
B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
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<tr>
<td>Upon successful completion of this course a student will be able to:</td>
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<tr>
<td>A. Analyze Geomatics data and provide an error budget for measurements.</td>
<td>Assignments, Exams, Project</td>
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<tr>
<td>B. Analyze the propagation of errors through sequential processes.</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>C. Apply least squares adjustment to a Geomatics application.</td>
<td>Assignments, Exams, Project</td>
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</table>

V. Typical Course Outline

1. Measurements
   1.1. Characteristics of measurements
   1.2. Kinds of measurements
   1.3. Definition of error
   1.4. Sources of errors
   1.5. Types of errors
   1.6. Quality of measurements
   1.7. Presence of errors in surveying observations
   1.8. Redundant observations
   1.9. Importance of adjustments
   1.10. Advantages of least squares

2. Observations and Their Analysis
   2.1. Definitions
   2.2. Methods of analyzing data
   2.3. Measures of central tendency
   2.4. Creating a histogram
   2.5. Common histogram shapes
   2.6. Measures of data variation
   2.7. Alternate method for computing sample variance
   2.8. Derivation of sample variance

3. Random Error Theory
   3.1. Theory of probability
   3.2. Properties of the normal distribution curve
   3.3. Probable errors
   3.4. Uses for percent errors
4. Confidence Intervals
   4.1. Sample versus population
   4.2. Sampling distributions
   4.3. Confidence intervals of population mean, variance and ratio

5. Statistical Testing
   5.1. Hypothesis testing
   5.2. Four parts of statistical testing
   5.3. Errors in statistical testing
   5.4. Type of tests

6. Propagation of Random Errors
   6.1. Analysis of error propagation
      6.1.1. General Law of the Propagation of Variances
      6.1.2. Special Law of the Propagation of Variances
   6.2. Standard error in a sum
   6.3. Standard error in the mean
   6.4. Error propagation in the formula for a cylindrical tank
   6.5. Horizontal distance
   6.6. Inaccessible point problem

7. Error Propagation in Angle and Distance Observations
   7.1. Direction and angle errors
   7.2. Estimated error in a horizontal angle
   7.3. Estimated angular misclosure in a traverse
   7.4. Estimated error in an EDM distance
   7.5. Use of EDM calibration baselines
   7.6. Errors in astronomically derived azimuths

8. Error Propagation in Traverse Surveys
   8.1. Derivation of error propagation formula
   8.2. Estimated errors in course azimuths
   8.3. Estimated error in traverse closure

9. Error Propagation in Elevation Determination
   9.1. Identification of systematic error sources in differential leveling
   9.2. Analysis of random errors in differential leveling
   9.3. Analysis of collimating errors
   9.4. Earth curvature and refraction
   9.5. Combined effect of systematic errors
   9.6. Analysis of random errors
   9.7. Trigonometric leveling

10. Weights in Observations
    10.1. Weighted mean
    10.2. Relation between weights and standard errors
10.3. Statistics of weighted observations
10.4. Weights in angle observations
10.5. Weights in differential leveling

11. Principles of Least Squares
   11.1. Fundamental principle for equal-weight and weighted case
   11.2. Stochastic model
   11.3. Functional model
   11.4. Observation equations
      11.4.1. Systematic formation
      11.4.2. Tabular methods
      11.4.3. Matrix methods
   11.5. Fit of points
      11.5.1. to a line
      11.5.2. to a parabola
   11.6. Calibration of EDM
   11.7. Conditional equation;
   11.8. Observation equation with constraint

12. Adjustment of Level Nets
   12.1. Observation equation
   12.2. Unweighted example
   12.3. Weighted example
   12.4. Reference variance and standard deviation

13. Precision of Indirectly Determined Quantities
   13.1. Development of covariance matrix
   13.2. Standard deviations of computed quantities

VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:

Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
   EN SOENGR

1b. Division
   choose one

1c. Department
   Geomatics

2. Course Prefix
   GEO

3. Course Number
   A266

4. Previous Course Prefix & Number
   N/A

5a. Credits/CEUs
   3

5b. Contact Hours
   (Lecture + Lab)
   (2+3)

6. Complete Course Title
   Advanced Surveying
   Adv Surveying

   Abbreviated Title for Transcript (30 character)

7. Type of Course
   - Academic
   - Preparatory/Development
   - Non-credit
   - CEU
   - Professional Development

8. Type of Action:
   - Add
   - Change
   - Delete

   If a change, mark appropriate boxes:
   - Prefix
   - Credits
   - Title
   - Grading Basis
   - Course Description
   - Test Score Prerequisites
   - Automatic Restrictions
   - Other

   Cross-Listed/Stacked
   - Course Number
   - Contact Hours
   - Repeat Status
   - Co-requisites
   - Registration Restrictions
   - General Education Requirement
   - Class
   - Level
   - Major
   - Other (please specify)

9. Repeat Status No
   0

   # of Repeats
   0

   Max Credits
   0

10. Grading Basis
    - A-F
    - P/NP
    - NG

11. Implementation Date
    - semester/year
    - From: Fall/2014
    - To: 99/9999

12. Cross Listed with
    - Stacked with
    - Cross-Listed Coordination Signature

13a. Impacted Courses or Programs:
    List any programs or college requirements that require this course.
    Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

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Initiator Name (typed): T.B. Quimby
Initiator Signed Initials: __________________ Date: ______________

13b. Coordination Email
    Date: 1/13/14
    submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
    Date: 1/13/14

14. General Education Requirement
    Mark appropriate box:
    - Oral Communication
    - Written Communication
    - Quantitative Skills
    - Humanities
    - Fine Arts
    - Social Sciences
    - Natural Sciences
    - Integrative Capstone

15. Course Description
    (suggested length 20 to 50 words)
    Advanced survey measurement techniques. Use of conventional survey instrumentation, total stations and data controllers. Acquisition and retrieval of geomatics data from data controllers. Horizontal and vertical traversing and adjustment methods. Basics of Terrestrial LiDAR surveying and topographic surveying projects.

16a. Course Prerequisite(s)
    (list prefix and number or test code and score)
    [GEO A156 and GEO A157] with a minimum grade of C.

16b. Co-requisite(s)
    (concurrent enrollment required)

16c. Automatic Restriction(s)
    - College
    - Major
    - Class
    - Level

16d. Registration Restriction(s)
    (non-codable)

17. Mark if course has fees
    Std CoEng fee & existing course fee

18. Mark if course is a selected topic course

19. Justification for Action
    This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.
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<td>Provost or Designee</td>
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COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: December 4, 2013   Date Revised: January 10, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number: A266
   d. Number of credits and contact hours: 3.0 (2+3)
   e. Course title: Advanced Surveying
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Advanced survey measurement techniques. Use of conventional survey instrumentation, total stations and data controllers. Acquisition and retrieval of geomatics data from data controllers. Horizontal and vertical traversing and adjustment methods. Basics of Terrestrial LiDAR surveying and topographic surveying projects.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions: Prerequisites: [GEO A156 and GEO A157] with a minimum grade of C.
   m. Course fees: Yes, standard CoEng and a course fee

III. Course Level Justification

This course builds on the knowledge and skills gained in GEO A156 and GEO A157.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals:
   The instructor will:
   1. Demonstrate quickly and effectively setting up a total station instrument
   2. Explain how to use a data collector to collect measurements
   3. Explain how to code attributes in a data collector
   4. Explain downloading the data collector to a computer
   5. Explain how to perform least squares adjustment using computer software
   6. Explain how to process an electronic field file with computer software to achieve an automated process
7. Explain how to create a plan showing topography and site features with computer aided drafting software
8. Explain how to perform a survey using terrestrial LiDAR
9. Explain how to process a terrestrial LiDAR project

B. Student Learning Outcomes & Assessment:

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<tr>
<td>Upon successful completion of this course students will be able to:</td>
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<td>A. Quickly and effectively set up a total station instrument</td>
<td>Assignments, Exams, Project</td>
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<tr>
<td>B. Use a data collector to collect measurements and code attributes</td>
<td>Assignments, Exams, Project</td>
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<td>C. Download the data collector to a computer</td>
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<td>D. Perform least squares adjustment using computer software</td>
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<td>E. Process an electronic field file with computer software to achieve an automated process</td>
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<tr>
<td>F. Create a plan showing topography and site features with computer aided drafting software</td>
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</tr>
<tr>
<td>G. Use a terrestrial LiDAR scanner to collect data</td>
<td>Assignments, Exams, Project</td>
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<td>H. Process terrestrial LiDAR data</td>
<td>Assignments, Exams, Project</td>
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V. Typical Course Outline

1. Safety
   1.1. General campus safety / emergency evacuation
   1.2. Vehicle traffic hazards during geomatics measurements
   1.3. Proper use and disposal of rechargeable batteries
   1.4. Electrical hazards during geomatics measurements
   1.5. Field safety
   1.6. Survey equipment safety
   1.7. Computer concerns and ergonomics
   1.8. Moose and bear safety

2. Field Survey Measurements Review
   2.1. Distance measurements
   2.2. Angle measurements
   2.3. Vertical measurements

3. Total Stations
   3.1. Conventional
   3.2. Reflectorless
4. Robotic

5. Field Survey Standards
   5.1. Methodology
   5.2. Alaska requirements

6. Data Controllers
   6.1. Use and functions
   6.2. Coding
   6.3. Data exchange

7. Least Squares Traverse Adjustment Computations using Software

8. Topographic Surveying
   8.1. Establishment horizontal and vertical control
   8.2. Field techniques
   8.3. Automated methods of data acquisition
   8.4. Process an electronic data file
   8.5. Topographic plan creation

9. Basics of Terrestrial LiDAR Surveying
   9.1. Collection
   9.2. Processing

VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:


### Course Action Request

**University of Alaska Anchorage**

Proposal to Initiate, Add, Change, or Delete a Course

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<td>1b. Division</td>
<td>choose one</td>
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| 8. Type of Action: | Add | or | Change | or | Delete |

If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Automatic Restrictions
- Other
- Course Number
- Contact Hours
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- Course Prerequisites
- Registration Restrictions
- General Education Requirement
- (please specify)

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**13a. Impacted Courses or Programs:** List any programs or college requirements that require this course.

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Initiator Name (typed): T.B. Quimby

Initiator Signed Initials: __________ Date: __________

**13b. Coordination Email**

submitted to Faculty Listserv: [uaa-faculty@lists.uaa.alaska.edu](mailto:uaa-faculty@lists.uaa.alaska.edu)

**13c. Coordination with Library Liaison**

Date: 1/13/14

**14. General Education Requirement**

Mark appropriate box:

- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

**15. Course Description** *(suggested length 20 to 50 words)*

Advanced survey measurement techniques. Use of conventional survey instrumentation, total stations and data controllers. Acquisition and retrieval of geomatics data from data controllers. Horizontal and vertical traversing and adjustment methods. Basics of Terrestrial LiDAR surveying and topographic surveying projects.

**16a. Course Prerequisite(s) (list prefix and number or test code and score)**

(GEO A156 and ENGL A212) with a minimum grade of C.

**16b. Co-requisite(s) (concurrent enrollment required)**

**16c. Automatic Restriction(s)**

- College
- Major
- Class
- Level

**16d. Registration Restriction(s) (non-codable)**

Mark if course has fees Std CoEng fee & existing course fee

**17. Mark if course is a selected topic course**

This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.
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<thead>
<tr>
<th>Role</th>
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<td>Jeff Hollingsworth</td>
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<td>Undergraduate/Graduate Academic Board Chair</td>
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<td>College/School Curriculum Committee Chair</td>
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<td>Provost or Designee</td>
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<td>Geomatics BS</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
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<td>GIS A369</td>
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<td>Bart Quimby</td>
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COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: December 4, 2013  Date Revised: January 10, 2014

II. Course Information
a. College: EN
b. Course prefix: GEO
c. Course number A267
d. Number of credits and contact hours: 3.0 (3+0)
e. Course title: Boundary Law I
f. Grading Basis: A-F
g. Implementation date: Fall 2014
h. Cross listing: None
i. Stacking None
j. Course Description: Elements of boundary control and legal principles. Course topics include boundary history, ownership, rights, interests, title, transfer, and description of real property, the rectangular system, sequential conveyances, simultaneously created boundaries, and water boundary elements.
k. Course attributes: None
l. Course registration prerequisites/restrictions: Prerequisites: [GEO A156 and ENGL A212] with a minimum grade of C.
m. Course fees: Yes, standard CoEng and a course fee

III. Course Level Justification

This course builds on the prerequisite courses.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals:
The instructor will explain:
1. Boundary history, ownership, rights, interests, title, transfer, and description of real property in the US as it applies to the Surveying Profession
2. The Public Land Survey System
3. The rules of evidence in locating sequential conveyances
4. Application of location principles of simultaneously created boundaries, combination descriptions
5. The significance of riparian and littoral boundaries, including riparian rights, navigability, public water, erosion, accretion, avulsion, reliction and other water boundary elements.
6. The significance of ethics and the judicial function of the Surveying Professional

B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
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<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to demonstrate an understanding of:</td>
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<tr>
<td>A. Boundary history, ownership, rights, interests, title, transfer, and description of real property as it applies to Land Surveying</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>B. The Public Land Survey System</td>
<td>Assignments, Exams, Project</td>
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<tr>
<td>C. The rules of evidence in locating sequential conveyances</td>
<td>Assignments, Exams, Project</td>
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<td>D. Application of location principles of simultaneously created boundaries, combination descriptions</td>
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<td>E. The significance of riparian and littoral boundaries, including riparian rights, navigability, public water, erosion, accretion, avulsion, reliction and other water boundary elements.</td>
<td>Assignments, Exams, Project</td>
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<tr>
<td>F. The significance of ethics and the judicial role of the Surveying Professional</td>
<td>Assignments, Exams, Project</td>
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</table>

V. Typical Course Outline

1. History of Boundaries
   1.1. Significance
   1.2. Historical development of property surveying
   1.3. Sovereign rights
   1.4. How boundaries are created
   1.5. Common law
   1.6. The difference between right, title, and interest
   1.7. Easements and licenses
   1.8. Servitudes, covenants, restrictions, and liens

2. Boundary Creation
   2.1. Methodologies
2.2. Who may create boundaries
2.3. Distinction between comers and monuments
2.4. The sanctity of the original survey

3. Ownership, Transfer, and Description of Real Property
3.1. Distinction between private and public lands
3.2. Sources of title
3.3. Methods of transferring title
3.4. Chain of title
3.5. Unwritten rights
3.6. Elements and types of deeds and descriptions
3.7. Deeds of trust, mortgages, and other instruments

4. Boundaries Law, and Presumptions
4.1. Constitutional law
4.2. Statute law
4.3. Common law
4.4. Administrative law
4.5. Sovereign immunity
4.6. Acts, judicial notice, and presumptions

5. The Creation of General Land Office (GLO) Boundaries
5.1. U.S. Public Lands Survey System (PLSS)
5.2. History and evolution, the Rectangular System
5.3. Sections and townships
5.4. Original surveys
5.5. Relationships of plats, field notes, monuments, and accessories

6. Creation of Non-Sectionalized Boundaries
6.1. Various methods of creating
6.2. Metes and bounds
6.3. Exception area, distance, proportion, and division
6.4. Types, calls for, and properties of monuments
6.5. Deed terms
6.6. Coordinate systems and datums
6.7. Subdivision descriptions
6.8. Protraction
6.9. Features of planning acts
6.10. Writing legal descriptions

7. Federal and State Non-Sectionalized Land Surveys
7.1. Types in other states
7.2. U.S. Mineral Surveys
7.3. Mill sites

8. Locating Easements and Reversions
8.1. Federal restrictions on access
8.2. Native lands
8.3. Alaska Easement Law
8.4. Alaska Statutes on vacation of easements

9. Riparian and Littoral Boundaries
   9.1. Riparian boundaries and rights
   9.2. Submerged lands
   9.3. Navigability
   9.4. Public Trust Doctrine
   9.5. Public water
   9.6. Erosion, accretion, avulsion, and reliction
   9.7. Other water boundary elements

10. Locating Sequential Conveyances
    10.1. Relationship of junior and senior parcels
    10.2. Order of title elements
    10.3. Intent of the parties of deeds
    10.4. Types of monuments
    10.5. Mathematical correctness
    10.6. Location of monuments
    10.7. Lines of possession
    10.8. Superiority of calls
    10.9. Common customs of other surveyors
    10.10. Control by direction and distance
    10.11. Importance of area

11. Locating Simultaneously Created Boundaries (Subdivisions)
    11.1. Parcels without junior or senior rights
    11.2. Parcels sold according to plat
    11.3. Importance of boundary monuments
    11.4. Conflicting monuments
    11.5. Streets and alleys
    11.6. Establishment of lots
    11.7. Treatment of excess and deficiency

12. The Role of the Surveyor; Ethics and Moral Responsibilities
VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:


Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
EN SOENGR

1b. Division
choose one

1c. Department
Geomatics

2. Course Prefix
GEO

3. Course Number
A301

4. Previous Course Prefix & Number
N/A

5a. Credits/CEUs
1

5b. Contact Hours
(Lecture + Lab)
(0+2)

6. Complete Course Title
Geomatics Professional Development I

Abbreviated Title for Transcript (30 character)

7. Type of Course
☒ Academic ☐ Preparatory/Development ☐ Non-credit ☐ CEU ☐ Professional Development

8. Type of Action: ☐ Add or ☐ Change or ☒ Delete

If a change, mark appropriate boxes:

☐ Prefix ☐ Course Number
☐ Credits ☐ Contact Hours
☐ Grade Basis ☐ Repeat Status
☐ Course Description ☐ Cross-Listed/Stacked
☐ Test Score Prerequisites ☐ Course Prerequisites
☐ Automatic Restrictions ☐ Registration Restrictions
☐ Class ☐ Level ☐ College ☐ Major
☐ Other (please specify)

9. Repeat Status No
   # of Repeats
   Max Credits

10. Grading Basis
    ☒ A-F ☐ P/NP ☐ NG

11. Implementation Date
    semester/year
    From: Fall/2014 To: 99/9999

12. ☐ Cross Listed with
    ☐ Stacked with
    Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

13b. Coordination Email
    Date: 1/13/14
    submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
    Date: 1/13/14

14. General Education Requirement
    Mark appropriate box:
    ☐ Oral Communication ☐ Written Communication ☐ Quantitative Skills ☐ Humanities
    ☐ Fine Arts ☐ Social Sciences ☐ Natural Sciences ☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)
    ☐ College ☐ Major ☐ Class ☐ Level

16d. Registration Restriction(s) (non-codable)

17. ☐ Mark if course has fees

18. ☐ Mark if course is a selected topic course

19. Justification for Action
    This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator Name (typed): T.B. Quimby
Initiator Signed Initials: _________
Date:________________

Jeff Hollingsworth
Initiator (TYPE NAME)

☐ Approved ☐ Disapproved
Date

Dean/Director of School/College
Date

Undergraduate/Graduate Academic
Date

Board Chair
Date

Provost or Designee
Date
### Course Action Request

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course**

1a. School or College  
EN SOENGR

1b. Division  
choose one

1c. Department  
Geomatics

2. Course Prefix  
GEO

3. Course Number  
A302

4. Previous Course Prefix & Number  
N/A

5a. Credits/CEUs  
1

5b. Contact Hours  
(Lecture + Lab)  
(0+2)

6. Complete Course Title  
Geomatics Professional Development II

Abbreviated Title for Transcript (30 character)

7. Type of Course  
☒ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development

8. Type of Action:  
☐ Add  ☐ Change  ☐ Delete

If a change, mark appropriate boxes:

- Prefix  
- Credits  
- Title  
- Grading Basis  
- Course Description  
- Test Score Prerequisites  
- Automatic Restrictions  
- Class  
- Level  
- College  
- Major  
- Other (please specify)

9. Repeat Status No  
# of Repeats  
Max Credits

10. Grading Basis  
☒ A-F  ☐ P/NP  ☐ NG

11. Implementation Date  
semester/year  
From: Fall/2014  
To: 99/9999

12. ☐ Cross Listed with  
☐ Stacked with  
Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

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<th>Chair/Coordinator Contacted</th>
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<td>BS, Geomatics</td>
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<td>T.B. Quimby</td>
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Initiator Name (typed): T.B. Quimby  
Initiator Signed Initials:  
Date:

13b. Coordination Email  
Date: 1/13/14  
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison  
Date: 1/13/14

14. General Education Requirement  
Mark appropriate box:

- Oral Communication  
- Written Communication  
- Quantitative Skills  
- Humanities  
- Fine Arts  
- Social Sciences  
- Natural Sciences  
- Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

16a. Course Prerequisite(s) ([list prefix and number or test code and score])

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)  
☐ College  ☐ Major  ☐ Class  ☐ Level

16d. Registration Restriction(s) (non-codable)

17. ☐ Mark if course has fees

18. ☐ Mark if course is a selected topic course

19. Justification for Action  
This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator (faculty only)  
Jeff Hollingsworth

Initiator (TYPE NAME)  
☐ Approved  ☐ Disapproved

Dean/Director of School/College  
Date

Undergraduate/Graduate Academic  
Date

Board Chair  
Date

provost or Designee  
Date

237
**Course Action Request**

**University of Alaska Anchorage**

Proposal to Initiate, Add, Change, or Delete a Course

---

1a. School or College  
EN SOENGR  

1b. Division  
choose one  

1c. Department  
Geomatics  

2. Course Prefix  
GEO  

3. Course Number  
A303  

4. Previous Course Prefix & Number  
N/A  

5a. Credits/CEUs  
1  

5b. Contact Hours  
(Lecture + Lab)  
(0+2)  

6. Complete Course Title  
Geomatics Professional Development III  

Abbreviated Title for Transcript (30 character)  

7. Type of Course  
☑ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development  

8. Type of Action:  
☐ Add  ☑ Change  ☐ Delete  

If a change, mark appropriate boxes:  
☐ Prefix  ☐ Course Number  ☐ Contact Hours  ☐ Repeat Status  
☐ Grading Basis  ☐ Cross-Listed/Stacked  ☐ Course Prerequisites  ☐ Co-requisites  
☐ Test Score Prerequisites  ☐ Registration Restrictions  ☐ General Education Requirement  
☐ Automatic Restrictions  ☐ Class  ☐ Level  ☐ College  ☐ Major  ☐ Other (please specify)  

9. Repeat Status No  # of Repeats  Max Credits  

10. Grading Basis  
☐ A-F  ☑ P/NP  ☐ NG  

11. Implementation Date  
semester/year  
From: Fall/2014  To: 99/9999  

12. ☐ Cross Listed with  
☐ Stacked with  

Cross-Listed Coordination Signature  

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13a. Impacted Courses or Programs: List any programs or college requirements that require this course.  
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<td>T.B. Quimby</td>
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Initiator Name (typed): T.B. Quimby  
Initiator Signed Initials: _________  
Date: __________  

13b. Coordination Email  
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)  
Date: 1/13/14  

13c. Coordination with Library Liaison  
Date: 1/13/14  

14. General Education Requirement  
Mark appropriate box:  
☐ Oral Communication  ☐ Written Communication  ☐ Quantitative Skills  ☐ Humanities  
☐ Fine Arts  ☐ Social Sciences  ☐ Natural Sciences  ☐ Integrative Capstone  

15. Course Description (suggested length 20 to 50 words)  

16a. Course Prerequisite(s) (list prefix and number or test code and score)  
16b. Co-requisite(s) (concurrent enrollment required)  
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19. Justification for Action  
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Initiator (faculty only)  
Jeff Hollingsworth  
Initiator (TYPE NAME)  

☑ Approved  ☐ Disapproved  

Dean/Director of School/College  
Date  

☐ Approved  ☐ Disapproved  

Undergraduate/Graduate Academic  
Date  

☐ Approved  ☐ Disapproved  

Board Chair  
Date  

☐ Approved  ☐ Disapproved  

Provost or Designee  
Date  

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**Course Action Request**
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

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<td><strong>19. Justification for Action</strong></td>
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<td>This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.</td>
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<td>Date</td>
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<td>Disapproved</td>
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<tr>
<td>Jeff Hollingsworth</td>
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<td>Department Chair</td>
<td>Date</td>
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<td>Date</td>
<td>Approved</td>
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COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: December 4, 2013  Date Revised: January 10, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number: A355
   d. Number of credits and contact hours: 3.0 (2+2)
   e. Course title: Land Development and Design
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Prerequisites: [GEO A157 and GEO A267] with a minimum grade of C.
   m. Course Fees: Yes, standard CoEng and a course fee

III. Course Level Justification

This is an upper division course in surveying Geomatics, which builds on earlier Geomatics courses.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals:
   The instructor will explain:
   1. The concepts governing land development and design
   2. The regulations governing the development process
   3. The regulations governing the mapping process
   4. The permitting process and governmental jurisdictions involved
   5. How to design and implement a subdivision map
B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Demonstrate an understanding of the concepts governing land development and design</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>B. Demonstrate an understanding of the regulations governing the development process</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>C. Demonstrate an understanding of the regulations governing the mapping process</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>D. Demonstrate an understanding of the permitting process and governmental jurisdictions involved</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>E. Design and produce a subdivision map</td>
<td>Assignments, Exams, Project</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Concepts Governing Land Development
   1.1. Topographical mapping
   1.2. Soils analysis
   1.3. Environmental impact statements
   1.4. Aesthetic principles
       1.4.1. Curvilinear design
       1.4.2. Site planning
   1.5. Economic considerations
   1.6. Ethical considerations

2. Regulations Governing Land Development
   2.1. Federal regulations
   2.2. State regulations
   2.3. Local platting regulations

3. Regulations Governing Mapping
   3.1. Federal regulations
   3.2. State regulations
   3.3. Local platting regulations

4. Permit Processes
   4.1. Department of Environmental Conservation
   4.2. Corps of Engineers
4.3. Boroughs
4.4. Bureau of Land Management
4.5. Bureau of Indian Affairs

5. Mapping of Subdivisions
   5.1. Aesthetic principles in mapping
   5.2. Geometric design
   5.3. Certificates
   5.4. Notes

VI. Suggested Text and Bibliography

A. Suggested Text:

Materials from state, regional and local governing regulatory documents.

B. Bibliography:

Materials from state, regional and local governing regulatory documents.
Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
EN SOENGR

1b. Division
choose one

1c. Department
Geomatics

2. Course Prefix
GEO

3. Course Number
A357

4. Previous Course Prefix & Number
GEO A257

5a. Credits/CEUs
3

5b. Contact Hours
(Lecture + Lab)
(2+2)

6. Complete Course Title
Photogrammetry

7. Type of Course
☒ Academic ☐ Preparatory/Development ☐ Non-credit ☐ CEU ☐ Professional Development

8. Type of Action: ☐ Add or ☒ Change or ☐ Delete

If a change, mark appropriate boxes:

☒ Prefix ☐ Credits ☐ Contact Hours ☐ Repeat Status
☒ Title ☐ Grading Basis ☐ Cross-Listed/Stacked ☐ Course Prerequisites
☒ Course Description ☐ Test Score Prerequisites ☐ Co-requisites
☒ Automatic Restrictions ☐ Registration Restrictions ☐ General Education Requirement
☒ Class ☐ Level ☐ College ☐ Major ☐ Other

9. Repeat Status No

# of Repeats

Max Credits

10. Grading Basis
☒ A-F ☐ P/NP ☐ NG

11. Implementation Date
semester/year

From: Fall/2014 To: 99/9999

12. ☐ Cross Listed with

☐ Stacked with

Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Impacted Program/Course
Date of Coordination
Chair/Coordinator Contacted

Initiator Name (typed): T.B. Quimby
Initiator Signed Initials: _________ Date: __________

13b. Coordination Email
Date: 1/13/14
submitted to Faculty Listserve: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
Date: 1/13/14

14. General Education Requirement
Mark appropriate box:

☐ Oral Communication ☐ Written Communication ☐ Quantitative Skills ☐ Humanities
☐ Fine Arts ☐ Social Sciences ☐ Natural Sciences ☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)
Introduction to principles of optics and image formation, aerial and terrestrial cameras, lens distortions, close-range photogrammetry, stereoscopic image acquisition and measurements, 3D model reconstruction, and aerial photogrammetry.

16a. Course Prerequisite(s) (list prefix and number or test code and score)
[ENGL A212 and GEO A246 and GIS A351] with a minimum grade of C.

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)
☐ College ☐ Major ☐ Class ☐ Level

16d. Registration Restriction(s) (non-codable)

17. ☒ Mark if course has fees Std CoEng fee

18. ☐ Mark if course is a selected topic course

19. Justification for Action
This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

Initiator (faculty only)
Jeff Hollingsworth
Initiator (TYPE NAME)

Initiator (faculty only) Date
Approved ☐ Disapproved ☐

Dean/Director of School/College Date
Approved ☐ Disapproved ☐

Undergraduate/Graduate Academic Date
Approved ☐ Disapproved ☐

Board Chair Date
Approved ☐ Disapproved ☐

Provost or Designee Date
<table>
<thead>
<tr>
<th><strong>Course Being Changed:</strong></th>
<th><strong>GEO A357 (formerly GEO A257)</strong></th>
<th><strong>Photogrammetry (formerly Elements of Photogrammetry)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Impacted Program or Course</strong></td>
<td><strong>Date of Notification</strong></td>
<td><strong>Chair/Coordinator Contacted</strong></td>
</tr>
<tr>
<td>Natural Sciences BS</td>
<td>1/13/14</td>
<td>Khyrs Duddleston</td>
</tr>
<tr>
<td>Geomatics BS</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>Geomatics AAS</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>GEO A467</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
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</tbody>
</table>
COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: December 19, 2013  Date Revised: January 10, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number: A357
   d. Number of credits and contact hours: 3.0 (2+2)
   e. Course title: Photogrammetry
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Introduction to principles of optics and image formation, aerial and terrestrial cameras, lens distortions, close-range photogrammetry, stereoscopic image acquisition and measurements, 3D model reconstruction, and aerial photogrammetry.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Prerequisites: [ENGL A212 and GEO A246 and GIS A351] with a minimum grade of C.
   m. Course fees: Yes, standard CoEng course fee

III. Course Level Justification

   This course provides the students with the fundamental theory and skills of introductory photogrammetry based on topics provided in the prerequisite courses. It teaches the student to implement fundamental photogrammetric works.

IV. Instructional Goals and Student Learning Outcomes:

   A. Instructional Goals.
      The instructor will:
      1. Provide overview of basic concepts of geometric and physical optics relevant to photogrammetry
      2. Explain methods and introduce techniques of camera calibration
      3. Provide overview of film and digital cameras used in photogrammetry
      4. Introduce basic techniques of image acquisition
      5. Explain basic geometrical concepts of stereo photogrammetry
      6. Introduce basic techniques of image acquisition
7. Explain principles of image measurements and calculations of coordinates of an object
8. Introduce principles of automated 3D model reconstruction
9. Introduce basic steps of aerial photogrammetric surveying and map compilation

B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Demonstrate understanding of the theory of photogrammetry</td>
<td>Homework assignments, technical reports, exams</td>
</tr>
<tr>
<td>B. Implement basic steps of camera calibration</td>
<td>Homework assignments, technical reports, exams</td>
</tr>
<tr>
<td>C. Implement basic steps of close-range photogrammetry</td>
<td>Homework assignments, technical reports, exams</td>
</tr>
<tr>
<td>D. Reconstruct 3D models using multi-view images</td>
<td>Homework assignments, technical reports, exams</td>
</tr>
<tr>
<td>E. Demonstrate understanding of the basic steps of aerial photogrammetric surveying</td>
<td>Homework assignments, technical reports, exams</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Introduction
   1.1. History
   1.2. Types of photographs
   1.3. Taking aerial photographs
   1.4. Uses of photogrammetry

2. Optics for Photogrammetry
   2.1. Introduction
   2.2. Physics and geometry of lenses
   2.3. Snell’s law

3. Principles of Photogrammetry
   3.1. Introduction
   3.2. Characteristics of aerial cameras
   3.3. Photographic process
   3.4. Digital cameras

4. Aerial Cameras
   4.1. Introduction
   4.2. Types of cameras
4.3. Parts of cameras
4.4. Camera calibrations

5. Photographic Measurements and Refinement
5.1. Introduction
5.2. Photo coordinate system
5.3. Coordinate corrections

6. Vertical Photographs
6.1. Geometry of vertical photographs
6.2. Scale
6.3. Relief displacement
6.4. Error evaluation

7. Elements of Analytical Photogrammetry
7.1. Single image and image stereopair
7.2. Geometric constrains
7.3. Collinearity
7.4. Co-planarity

8. Measurements in Image Stereopair
8.1. Vertical parallax
8.2. Horizontal parallax
8.3. Interior orientation
8.4. Relative orientation
8.5. Exterior (absolute) orientation

9. 3D modeling
9.1. Multi-view geometry
9.2. Automated 3D model reconstruction

10. Project Planning
10.1. Flight planning
10.2. Control surveys
10.3. Photographic considerations
10.4. Flight map

11. Aerial Surveying
11.1. Mapping project
11.2. Project definition
11.3. Photogrammetric mapping
VI. Suggested Text and Bibliography

A. Suggested Text:

B. Bibliography:
**Course Action Request**

University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
EN SOENGR

1b. Division
choose one

1c. Department
Geomatics

2. Course Prefix
GEO

3. Course Number
A358

4. Previous Course Prefix & Number
N/A

5a. Credits/CEUs
3

5b. Contact Hours
(2+2)

6. Complete Course Title
Programming for Digital Cartography

Abbreviated Title for Transcript (30 character)

7. Type of Course
- [x] Academic
- [ ] Preparatory/Development
- [ ] Non-credit
- [ ] CEU
- [ ] Professional Development

8. Type of Action:
- [ ] Add
- [ ] Change
- [x] Delete

If a change, mark appropriate boxes:
- [ ] Prefix
- [ ] Course Number
- [ ] Credits
- [ ] Title
- [ ] Grading Basis
- [ ] Contact Hours
- [ ] Repeat Status
- [ ] Cross-Listed/Stacked
- [ ] Course Prerequisites
- [ ] Co-requisites
- [ ] Registration Restrictions
- [ ] General Education Requirement
- [ ] Class
- [ ] Level
- [ ] College
- [ ] Major
- [ ] Other

9. Repeat Status No

10. Grading Basis
- [x] A-F
- [ ] P/NP
- [ ] NG

11. Implementation Date
From: Fall/2014
To: 99/9999

12. Cross Listed with

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

<table>
<thead>
<tr>
<th>Impact Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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<td>N/A</td>
<td>T.B. Quimby</td>
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<tr>
<td>3.</td>
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Initiator Name (typed): T.B. Quimby
Initiator Signed Initials: ___________ Date: ___________

13b. Coordination Email
Date: 1/13/14
submitted to Faculty Listserv: uaa-faculty@lists.uaa.alaska.edu

13c. Coordination with Library Liaison
Date: 1/13/14

14. General Education Requirement
Mark appropriate box:
- [ ] Oral Communication
- [ ] Written Communication
- [ ] Quantitative Skills
- [ ] Humanities
- [ ] Fine Arts
- [ ] Social Sciences
- [ ] Natural Sciences
- [ ] Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)
- [ ] College
- [ ] Major
- [ ] Class
- [ ] Level

16d. Registration Restriction(s) (non-codable)

17. Mark if course has fees

18. Mark if course is a selected topic course

19. Justification for Action
This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

Initiator (faculty only)
Jeff Hollingsworth
Initiator (TYPE NAME)

JD Hollingsworth

Date

[ ] Approved
[ ] Disapproved

Dean/Director of School/College

Date

[ ] Approved
[ ] Disapproved

Undergraduate/Graduate Academic

Date

[ ] Approved
[ ] Disapproved

Board Chair

Date

[ ] Approved
[ ] Disapproved

Provost or Designee

Date

[ ] Approved
[ ] Disapproved

College/School Curriculum Committee Chair

Date

[ ] Approved
[ ] Disapproved

Department Chair

Date

[ ] Approved
[ ] Disapproved

College/School Curriculum Committee Chair

Date

[ ] Approved
[ ] Disapproved

Department Chair

Date

[ ] Approved
[ ] Disapproved
Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
EN SOENGR

1b. Division
choose one

1c. Department
Geomatics

2. Course Prefix
GEO

3. Course Number
A359

4. Previous Course Prefix & Number
N/A

5a. Credits/CEUs
3

5b. Contact Hours
(Lecture + Lab)
(3+0)

6. Complete Course Title
Geodesy and Map Projections
Geo & Map Projections

7. Type of Course
☒ Academic
☐ Preparatory/Development
☐ Non-credit
☐ CEU
☐ Professional Development

8. Type of Action:
☐ Add
☒ Change
☐ Delete

If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Contact Hours
- Repeat Status
- Course Prerequisites
- Co-requisites
- Registration Restrictions
- General Education Requirement
- College
- Level
- Major
- Other

9. Repeat Status No
☐ # of Repeats
☐ Max Credits

10. Grading Basis
☒ A-F
☐ P/NP
☐ NG

11. Implementation Date
semester/year
From: Fall/2014
To: 99/9999

12. ☐ Cross Listed with
☐ Stacked with

13a. Impacted Courses or Programs:
List any programs or college requirements that require this course.

13b. Coordination Email
Date: 1/13/14
submitted to Faculty Listserv:
(uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
Date: 1/13/14

14. General Education Requirement
Mark appropriate box:
☒ Oral Communication
☐ Written Communication
☐ Quantitative Skills
☐ Humanities
☐ Fine Arts
☐ Social Sciences
☐ Natural Sciences
☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)
Introduction to geometrical and physical geodesy. Computations on the ellipsoid. Elements of datums. Map projections and state plane coordinate systems.

16a. Course Prerequisite(s) (list prefix and number or test code and score)
GEO A246 with a minimum grade of C.

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)
☐ College
☐ Major
☐ Class
☐ Level

17. ☒ Mark if course has fees Std CoEng fee & existing course fee

18. ☐ Mark if course is a selected topic course

19. Justification for Action
This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

Initiator Name (typed): T.B. Quimby
Initiator Signed Initials: _________
Date: ___________

Initiator (faculty only)
Jeff Hollingsworth
Initiator (TYPE NAME)

☑ Approved
☐ Disapproved

☑ Approved
☐ Disapproved

☑ Approved
☐ Disapproved

☑ Approved
☐ Disapproved

☑ Approved
☐ Disapproved
<table>
<thead>
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<th>Impacted Program or Course</th>
<th>Date of Notification</th>
<th>Chair/Coordinator Contacted (not listerve)</th>
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<td>Geomatics BS</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>GEO A359</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
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<tr>
<td>GEO A460</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>GEO A466</td>
<td>1/13/14</td>
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</tr>
<tr>
<td>GEO A468</td>
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<td>Bart Quimby</td>
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</table>
I. Date Initiated: December 4, 2013   Date Revised: January 10, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number: A359
   d. Number of credits and contact hours: 3.0 (3+0)
   e. Course title: Geodesy and Map Projections
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Introduction to geometrical and physical geodesy. Computations on the ellipsoid. Elements of datums. Map projections and state plane coordinate systems.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Prerequisite: GEO A246 with a minimum grade of C.
   m. Course fees: Yes, standard CoEng and a course fee

III. Course Level Justification

   This course builds on concepts from lower division courses and prepares students for upper division course.

IV. Instructional Goals and Student Learning Outcomes:

   A. Instructional Goals:
      The instructor will explain:
      1. The geometry of the ellipsoid, computations on the ellipsoid and respective direct and inverse solutions
      2. How scale factors are applied to measured and calculated values
      3. The concepts and mathematics of map projections
      4. The concepts and mathematics of coordinate transformation calculations
      5. The concepts and mathematics of map projection formula for Alaska State Plane computations for direct and inverse solutions
B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Perform computations on the ellipsoid and respective direct and inverse solutions</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>B. Apply scale factors to measured and calculated values</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>C. Demonstrate an understanding of the concepts and calculations of map projections</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>D. Apply the concepts and mathematics of coordinate transformation calculations</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>E. Apply concepts and mathematics of map projection formula to Alaska State Plane</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>computations for direct and inverse solutions</td>
<td></td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Introduction to Geodetic Surveying
   1.1. History of geodesy
   1.2. Basic concepts and definitions of geodesy

2. The Earth as a Sphere
   2.1. Spherical excess
   2.2. Sea level reduction
   2.3. Computations of a quadrilateral

3. The Ellipsoid of Revolution as a Mathematical Model of the Earth
   3.1. Analysis of the geometry of the ellipsoid
   3.2. Computational methods

4. Gravity Models
   4.1. Geoid heights
   4.2. Deflection of the vertical

5. Map Projections
   5.1. Basic concepts and definitions
   5.2. Properties of various projections
6. State Plane Coordinate System
   6.1. Basic concepts and overview
   6.2. Alaska State Plane Coordinate System
   6.3. State plane computations

7. Universal Transverse Mercator (UTM) Coordinate System
   7.1. General scheme and purpose
   7.2. Formulas and methods

8. Coordinates Transformations
   8.1. Between 3D and geographic
      8.1.1. Direct transformation
      8.1.2. Inverse transformation
   8.2. Between geographic and state plane
      8.2.1. Direct transformation
      8.2.2. Inverse transformation
   8.3. Between different ellipsoids

9. Elements of Datums
   9.1. Horizontal datums
   9.2. Vertical datums
   9.3. Local datums

10. Global Datums

11. Datum Transformations

VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:


Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
EN SOENGR

1b. Division
choose one

1c. Department
Geomatics

2. Course Prefix
GEO

3. Course Number
A366

4. Previous Course Prefix & Number
N/A

5a. Credits/CEUs
3

5b. Contact Hours
(Lecture + Lab)
(3+0)

6. Complete Course Title
Spatial Data Adjustments II
Spatial Data Adj II

7. Type of Course
☒ Academic
☐ Preparatory/Development
☐ Non-credit
☐ CEU
☐ Professional Development

8. Type of Action:
☒ Add
☐ Change
☐ Delete

If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Automatic Restrictions
- Class
- Level
- College
- Other

9. Repeat Status No # of Repeats Max Credits

10. Grading Basis
☒ A-F
☐ P/np
☐ NG

11. Implementation Date
From: Fall/2014 To: 99/9999

12. ☐ Cross Listed with
☐ Stacked with

13a. Impacted Courses or Programs:
List any programs or college requirements that require this course.
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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<tbody>
<tr>
<td>1. BS, Geomatics</td>
<td>N/A</td>
<td>T.B. Quimby</td>
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<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Initiator Name (typed): T.B. Quimby Initiator Signed Initials: _________ Date: __________

13b. Coordination Email
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
Date: 1/13/14

14. General Education Requirement
Mark appropriate box:
☐ Oral Communication
☐ Written Communication
☐ Quantitative Skills
☐ Humanities
☐ Fine Arts
☐ Social Sciences
☐ Natural Sciences
☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)
Theory and mechanics of a least squares adjustment using the traditional surveying observations of distances, angles, azimuths, and elevation differences. Post-adjustment analysis through the use of various statistical tests and error ellipse computation and analysis. Least squares adjustment and analysis of differential leveling, triangulation, trilateration, traverse, and network observations.

16a. Course Prerequisite(s) (list prefix and number or test code and score)
GEO A265 with a minimum grade of C.

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)
☐ College
☐ Major
☐ Class
☐ Level

16d. Registration Restriction(s) (non-codable)

17. ☒ Mark if course has fees Std CoEng fee & new course fee

18. ☐ Mark if course is a selected topic course

19. Justification for Action
This course is being added as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator (faculty only) Date
Jeff Hollingsworth
Initiator (TYPE NAME)

☐ Approved
☒ Disapproved

Dean/Director of School/College Date

☐ Approved
☒ Disapproved

Board Chair Date

☐ Approved
☒ Disapproved

Provost or Designee Date

☐ Approved
☒ Disapproved

Department Chair Date

☐ Approved
☒ Disapproved

College/School Curriculum Committee Chair Date
I. Date Initiated: December 4, 2013  Date Revised: January 10, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number A366
   d. Number of credits and contact hours: 3.0 (3+0)
   e. Course title: Spatial Data Adjustments II
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking None
   j. Course Description: Theory and mechanics of a least squares adjustment using the traditional surveying observations of distances, angles, azimuths, and elevation differences. Post-adjustment analysis through the use of various statistical tests and error ellipse computation and analysis. Least squares adjustment and analysis of differential leveling, triangulation, trilateration, traverse, and network observations.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Prerequisite: GEO A265 with a minimum grade of C.
   m. Course fees: Yes, standard CoEng and a course fee

III. Course Level Justification
Builds upon previous course work and requires familiarity with the concepts, methods, and vocabulary of the discipline.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals:
The instructor will explain:
1. The application of least squares adjustment to triangulation, trilateration, traverse, GNSS.
2. The application of least squares adjustment to coordinate transformations
3. Error ellipse and blunder detection
4. The analysis of the post adjustment process
5. Computer optimization techniques in adjustment
B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Apply least squares adjustment to triangulation, trilateration, traverse, GNSS.</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>B. Apply least squares adjustment to coordinate transformations</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>C. Perform error ellipse computations and blunder detection</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>D. Analyze a post adjustment report</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>E. Explain computer optimization methods for adjustment</td>
<td>Assignments, Exams, Project</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Trilateration Surveys
   1.1. Distance observation equation
   1.2. Intersection example
   1.3. Formulation of coefficient matrix
   1.4. Iteration termination
       1.4.1. Maximum iterations
       1.4.2. Maximum correction
       1.4.3. Monitoring reference variance

2. Triangulation Surveys
   2.1. Azimuth observation equation
   2.2. Angle observation equation
   2.3. Examples
       2.3.1. Intersections
       2.3.2. Resections
       2.3.3. Quadrilaterals

3. Adjustment of Traverse and Networks
   3.1. Traverse example
   3.2. Minimum amount of control
   3.3. Network example
4. Adjustment of GNSS Networks
   4.1. Observation equation
   4.2. Reference coordinate systems and conversions
   4.3. Pre-adjustment analysis
      4.3.1. Fixed baseline observations
      4.3.2. Repeat baseline observations
      4.3.3. Loop closures

5. Coordinate Transformations
   5.1. Two-dimensional transformations
      5.1.1. Conformal observation equation
      5.1.2. Affine observation equation
      5.1.3. Projective observation equation
   5.2. Three-dimensional transformation
   5.3. Statistically valid parameters

6. Error Ellipse
   6.1. Development of equations
   6.2. Confidence levels
   6.3. Uses in network design
   6.4. Other measures of station uncertainty

7. Constraint Equations
   7.1. Adjustment of control
   7.2. Method of elimination of constraints
      7.2.1. Holding azimuth of a line fixed
   7.3. Helmert's method
      7.3.1. Holding azimuth of a line fixed
   7.4. Redundancies in a constrained adjustment
   7.5. Overweighting method

8. Blunder Detection in Horizontal Networks
   8.1. A priori methods for detecting blunders
   8.2. Development of covariance matrix for residuals
   8.3. Statistical detection of outliers
      8.3.1. Data snooping
      8.3.2. Tau criterion
   8.4. Adjusting control
   8.5. Internal and external reliability
   8.6. Survey design

9. Method of General Least Squares Adjustment
   9.1. The general least squares solution
   9.2. Fitting points to a straight line
   9.3. Coordinate transformations
   9.4. Two-dimensional transformations
9.4.1. Conformal
9.4.2. Affine
9.4.3. Projective
9.5. Three-dimensional transformation

10. Three-Dimensional Geodetic Network Adjustment
10.1. Linearization of observation equations
   10.1.1. Slant distances
   10.1.2. Azimuths
   10.1.3. Vertical angles
   10.1.4. Horizontal angles
   10.1.5. Differential leveling
   10.1.6. Horizontal distances
10.2. Minimum number of constraints
10.3. Systematic errors

11. Combining GNSS and Terrestrial Observations
   11.1. Development of Helmert transformation
   11.2. Rotations between coordinate systems
   11.3. Combining GNSS baseline vectors with terrestrial observations
   11.4. Localization

12. Analysis of Adjustments
   12.1. Basic concepts and analysis of residuals
   12.2. Goodness of fit test
   12.3. Comparison of residual plots
   12.4. Statistical blunder detection

13. Computer Optimization
   13.1. Storage optimization
   13.2. Direct formation of normal equations
   13.3. Cholesky decomposition and solution of normal equations
   13.4. Cholesky factor inverse
   13.5. Optimization of sparseness of normal matrix
VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:

Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
EN SOENGR

1b. Division
choose one

1c. Department
Geomatics

2. Course Prefix
GEO

3. Course Number
A369

4. Previous Course Prefix & Number
N/A

5a. Credits/CEUs
3

5b. Contact Hours
(Lecture + Lab)
(3+0)

6. Complete Course Title
Cadastral Surveys
Cadastral Surveys

Abbreviated Title for Transcript (30 character)

7. Type of Course
☒ Academic
☐ Preparatory/Development
☐ Non-credit
☐ CEU
☐ Professional Development

8. Type of Action:
☒ Add
☐ Change
☐ Delete

If a change, mark appropriate boxes:
☐ Prefix
☐ Credits
☐ Title
☐ Grading Basis
☐ Course Description
☐ Test Score Prerequisites
☐ Automatic Restrictions
☐ College
☐ Level
☐ Major
☐ Other
☐ Contact Hours
☐ Repeat Status
☐ Cross-Listed/Stacked
☐ Course Prerequisites
☐ Registration Restrictions
☐ General Education Requirement

9. Repeat Status No
☐ # of Repeats
☐ Max Credits

10. Grading Basis
☒ A-F
☐ P/NP
☐ NG

11. Implementation Date
semester/year
From: Fall/2014
To: 99/9999

12. ☐ Cross Listed with
☐ Stacked with
☐ Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Impacted Program/Course
Date of Coordination
Chair/Coordinator Contacted

1. Geomatics BS
N/A
T.B. Quimby

2. 

3. 

Initiator Name (typed): T.B. Quimby
Initiator Signed Initials: _________
Date: __________

13b. Coordination Email
submitted to Faculty Listserv:
(uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
Date: 1/13/14

14. General Education Requirement
Mark appropriate box:
☐ Oral Communication
☐ Written Communication
☐ Quantitative Skills
☐ Humanities
☐ Fine Arts
☐ Social Sciences
☐ Natural Sciences
☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)
Discusses the United States Public Land Survey System with emphasis on Alaska; sectionalized land subdivision, corner restoration, resurveys, evidence, sources for legal research, and current BLM procedures and regulations.

16a. Course Prerequisite(s) (list prefix and number or test code and score)
GEO A267 with a minimum grade of C.

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)
☐ College
☐ Major
☐ Class
☐ Level

17. ☒ Mark if course has fees Std CoEng fee & new course fee

18. ☐ Mark if course is a selected topic course

19. Justification for Action
This course is being added as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

Initiator (faculty only)
Jeff Hollingsworth

Initiator (TYPE NAME)
☑ Approved
☐ Disapproved

☑ Approved
☐ Disapproved

☑ Approved
☐ Disapproved

☑ Approved
☐ Disapproved

☑ Approved
☐ Disapproved

☑ Approved
☐ Disapproved

☑ Approved
☐ Disapproved

☑ Approved
☐ Disapproved

☑ Approved
☐ Disapproved

☑ Approved
☐ Disapproved

☑ Approved
☐ Disapproved
I. Date Initiated: December 4, 2013  Date Revised: January 10, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number: A369
   d. Number of credits and contact hours: 3.0 (3+0)
   e. Course title: Cadastral Surveys
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Discusses the United States Public Land Survey System with emphasis on Alaska; sectionalized land subdivision, corner restoration, resurveys, evidence, sources for legal research, and current BLM procedures and regulations.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Prerequisite: GEO A267 with a minimum grade of C.
   m. Course fees: Yes, standard CoEng and Geomatics course fee

III. Course Level Justification

   This course continues, and builds on, the topic of boundary law presented in GEO A267.

IV. Instructional Goals and Student Learning Outcomes:

   A. Instructional Goals:
      The instructor will explain:
      1. The process of performing research for BLM and Alaska Public Records
      2. The procedures for obtaining and evaluation of evidence
      3. Methods of subdivision of sections and restoration of lost and obliterated corners for the Public Land Survey System
      4. How the Public Land Survey System is used as a Land information system for GIS
B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Perform research for BLM and Alaska Public Records</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>B. Use recognized procedures for obtaining and evaluation of evidence</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>C. Demonstrate an understanding of methods of subdivision of sections, retracement surveys and restoration of lost and obliterated corners for the Public Land Survey System</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>D. Demonstrate an understanding of how the Public Land Survey System is used as a Land information system for GIS</td>
<td>Assignments, Exams, Project</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Procedures for Obtaining Evidence and Research
   1.1. Methods research of BLM and Alaska Records
   1.2. General evidence
   1.3. Verbal evidence
   1.4. Other evidence
   1.5. Measurements as evidence
   1.6. Plats as evidence

2. Preservation of Evidence
   2.1. Vanishing evidence
   2.2. Perpetuation of evidence
   2.3. Authority to perpetuate
   2.4. Responsibility of perpetuating evidence
   2.5. Oaths and witness evidence

3. Public Land Survey System
   3.1. Subdivision of Sections
   3.2. "Manual" Special Instructions
   3.3. Statement of Work
   3.4. Government survey plats and notes
   3.5. Monuments, markings, and types of accessories
4. Resurvey and Retracement of Sectionalized Lands
   4.1. Federal rules of survey
   4.2. Federal patents
   4.3. Original corners and field notes
   4.4. Evidence recovery
   4.5. Locating original lines
   4.6. Restoring lost corners
   4.7. Double and single proportionate measurement
   4.8. Subdivision of sections by protraction
   4.9. Partitioning of standard and fractional sections
   4.10. Sections with government lots

5. Bureau of Land Management (BLM) in Alaska
   5.1. Innovative methodologies
   5.2. History of BLM Surveys in Alaska
   5.3. Survey procedures, plats, and notes
   5.4. Rules specific to the Alaska Public Land Survey System

6. PLSS as a Land Information System (LIS)
   6.1. Definition and Use of Land Information Systems
   6.2. Applications of LIS
   6.3. Base map construction methods

VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:


### Course Action Request
**University of Alaska Anchorage**
Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
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<th>1a. School or College</th>
<th>EN SOENGR</th>
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<tbody>
<tr>
<td>1b. Division</td>
<td>choose one</td>
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<tr>
<td>1c. Department</td>
<td>Geomatics</td>
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<th>2. Course Prefix</th>
<th>GEO</th>
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<td>3. Course Number</td>
<td>A410</td>
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<th>4. Previous Course Prefix &amp; Number</th>
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<th>5a. Credits/CEUs</th>
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<tr>
<td>5b. Contact Hours (Lecture + Lab)</td>
<td>(2+2)</td>
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**6. Complete Course Title**
Airborne LiDAR Surveying
Airborne LiDAR Surveying

**Abbreviated Title for Transcript (30 character)**: Airborne LiDAR Surveying

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<th>7. Type of Course</th>
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<th>Add or Change or Delete</th>
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**9. Repeat Status No**

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<th>11. Implementation Date</th>
<th>semester/year</th>
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<td>From: Fall/2014</td>
<td>To: 99/9999</td>
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<table>
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<th>12. Cross Listed with</th>
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**13a. Impacted Courses or Programs:** List any programs or college requirements that require this course.
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

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<td>1. Geomatics BS</td>
<td>N/A</td>
<td>T.B. Quimby</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
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</table>

**Initiator Name (typed): T.B. Quimby**
**Initiator Signed Initials:**
**Date:**

13b. Coordination Email
submitted to Faculty Listserv: [uaa-faculty@lists.uaa.alaska.edu](mailto:uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
**Date:** 1/13/14

14. General Education Requirement
**Mark appropriate box:**
- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

15. Course Description (suggested length 20 to 50 words)
Introduction to principles of LiDAR airborne surveying. Main elements of imaging systems and principles of data acquisition. Analysis of errors and accuracy of LiDAR data. Classification of LiDAR data.

16a. Course Prerequisite(s) (list prefix and number or test code and score)
GIS A301 with a minimum grade of C.

16b. Co-requisite(s) (concurrent enrollment required)
GEO A420

16c. Automatic Restriction(s)
- College
- Major
- Class
- Level

17. Mark if course has fees Std CoEng fee

18. Mark if course is a selected topic course

19. Justification for Action
This course is being added as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator (faculty only)
**Gennady Gienko**
Initiator (TYPE NAME)

---

Initiator: Approved
Date:________________

Dean/Director of School/College: Approved
Date:________________

Undergraduate/Graduate Academic Board Chair: Approved
Date:________________

Provost or Designee: Approved
Date:________________

---

267
I. Date Initiated: December 19, 2013        Date Revised: January 11, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number: A410
   d. Number of credits and contact hours: 3.0 (2+2)
   e. Course title: Airborne LiDAR Surveying
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Introduction to principles of LiDAR airborne surveying. Main elements of imaging systems and principles of data acquisition. Analysis of errors and accuracy of LiDAR data. Classification of LiDAR data.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Prerequisite: GIS A301 with a minimum grade of C.
      Co-requisite: GEO A420
   m. Course fees: Yes, standard CoEng course fee

III. Course Level Justification

   The course is built upon previous course work and requires thorough understanding of geospatial concepts, methods, and techniques. The course reinforces proficiency in programming and develops strong analytical skills.

IV. Instructional Goals and Student Learning Outcomes:

   A. Instructional Goals:
      The instructor will:
      1. Introduce the concept of airborne LiDAR surveying
      2. Introduce principles of LiDAR sensors
      3. Provide an overview of airborne platforms and LiDAR imaging systems
      4. Explain methods of manipulating with LiDAR data
      5. Provide an overview errors and introduce methods or accuracy assessment
      6. Introduce methods and techniques of LiDAR data classification
B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to demonstrate understanding of:</td>
<td></td>
</tr>
<tr>
<td>A. The basic concepts of LiDAR aerial surveying</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>B. The main elements of LiDAR imaging system</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>C. The principles of LiDAR data classification</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>D. LiDAR data georegistration</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>E. Airborne LiDAR data accuracy</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>F. The principles of feature extraction using LiDAR data</td>
<td>Homework assignments, exams</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Introduction to LiDAR Remote Sensing
2. Airborne LiDAR Systems
3. Inertial Measurement Units
4. Airborne LiDAR Data
5. LiDAR Data Classification
6. LiDAR Data Georegistration
7. Airborne LiDAR Accuracy
8. Airborne LiDAR Strip Adjustment
9. Feature Extraction Using LiDAR Data

VI. Suggested Text and Bibliography

A. Suggested Text:

B. Bibliography:
**Course Action Request**

University of Alaska Anchorage

Proposal to Initiate, Add, Change, or Delete a Course

1. **School or College**
   - EN SOENGR

2. **Course Prefix**
   - GEO

3. **Course Number**
   - A420

4. **Previous Course Prefix & Number**
   - N/A

5. **Credits/CEUs**
   - 3

6. **Complete Course Title**
   - High Density Spatial Data Analysis
   - Abbreviated Title for Transcript (30 character)

7. **Type of Course**
   - ☑ Academic

8. **Type of Action**
   - ☑ Add

9. **Repeat Status No # of Repeats Max Credits**

10. **Grading Basis**
    - ☑ A-F

11. **Implementation Date**
    - From: Fall/2014 To: 99/9999

12. **Cross Listed with**
    - Stacked with
    - Cross-Listed/Stacked Coordinate Signature

13a. **Impacted Courses or Programs**
    - List any programs or college requirements that require this course.

14. **General Education Requirement**
    - Mark appropriate box:
      - Oral Communication
      - Written Communication
      - Quantitative Skills
      - Humanities
      - Fine Arts
      - Social Sciences
      - Natural Sciences
      - Integrative Capstone

15. **Course Description**
    - Introduce to principles of point cloud data analysis and processing for Geomatics applications. Elements of computational geometry and spatial topology.

16a. **Course Prerequisite(s)**
    - (list prefix and number or test code and score)
    - GIS A301 and GEO A357 with a minimum grade of C.

16b. **Co-requisite(s)**
    - (concurrent enrollment required)

16c. **Automatic Restriction(s)**
    - ☑ College ☑ Major ☑ Class ☑ Level

16d. **Registration Restriction(s)**
    - (non-codable)

17. **Mark if course has fees Std CoEng fee**
   - ☑

18. **Mark if course is a selected topic course**
   - ☑

19. **Justification for Action**
    - This course is being added as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

**Initiator Name (typed): T.B. Quimby**

**Initiator Signed Initials: T.B. Quimby**

**Date: 1/13/14**

**Initiator (faculty only): Gennady Gienko**

**Initiator (TYPE NAME):**

**Approved**

**Disapproved**

**Dean/Director of School/College Date**

**Undergraduate/Graduate Academic Date**

**Board Chair**

**Approved**

**Disapproved**

**Provost or Designee Date**

---

270
COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: December 19, 2013          Date Revised: January 11, 2014

II. Course Information
    a. College: EN
    b. Course prefix: GEO
    c. Course number: A420
    d. Number of credits and contact hours: 3.0 (2+2)
    e. Course title: High Density Spatial Data Analysis
    f. Grading Basis: A-F
    g. Implementation date: Fall 2014
    h. Cross listing: None
    i. Stacking None
    j. Course Description: Introduction to principles of point cloud data analysis and processing for Geomatics applications. Elements of computational geometry and spatial topology.
    k. Course attributes: None
    l. Course registration prerequisites/restrictions:
       Prerequisites: [GIS A301 and GEO A357] with a minimum grade of C.
    m. Course fees: Yes, standard CoEng course fee

III. Course Level Justification

The course is built upon previous course work and requires understanding of basic geospatial concepts, methods, and vocabulary of the Geomatics discipline. The course develops strong analytical skills.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals:
   The instructor will:
   1. Provide overview of basic concepts of high density geospatial data
   2. Introduce data structures to store point cloud data
   3. Provide overview of fundamental concepts of computational geometry
   4. Provide overview of fundamental concepts of spatial topology
   5. Introduce fundamental methods of geospatial point cloud data analysis
   6. Introduce basic algorithms of manipulating point cloud data
B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Demonstrate understanding of the basic concepts of high density spatial data</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>B. Demonstrate understanding of fundamental concepts of computational geometry</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>C. Demonstrate understanding of fundamental concepts of spatial topology</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>D. Demonstrate understanding of fundamental methods of geospatial point cloud data analysis</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>E. Use basic tools for manipulating of point cloud data</td>
<td>Homework assignments, exams</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Introduction to High Density Spatial Data
2. Multi-Source Geospatial Point Clouds
3. Elements of Computational Geometry
4. Fundamentals of Spatial Topology
5. Methods of Geospatial Point Cloud Data Analysis
6. Point Cloud Filtering
7. Multi-Temporal Point Clouds Analysis
8. Feature Extraction from Point Cloud Data

IV. Suggested Text and Bibliography

A. Suggested Text:

B. Bibliography:


# Course Action Request

## University of Alaska Anchorage

Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>EN SOENGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1b. Division</td>
<td>choose one</td>
</tr>
<tr>
<td>1c. Department</td>
<td>Geomatics</td>
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</table>

<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>GEO</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Course Number</td>
<td>A433</td>
</tr>
<tr>
<td>4. Previous Course Prefix &amp; Number</td>
<td>N/A</td>
</tr>
<tr>
<td>5a. Credits/CEUs</td>
<td>3</td>
</tr>
<tr>
<td>5b. Contact Hours (Lecture + Lab)</td>
<td>(3+0)</td>
</tr>
</tbody>
</table>

### 6. Complete Course Title

Hydrographic Surveying

Abbreviated Title for Transcript (30 character)

### 7. Type of Course

- [x] Academic
- [ ] Preparatory/Development
- [ ] Non-credit
- [ ] CEU
- [ ] Professional Development

### 8. Type of Action:
- [ ] Add
- [x] Change
- [ ] Delete

If a change, mark appropriate boxes:

- [ ] Prefix
- [ ] Credits
- [ ] Title
- [ ] Grading Basis
- [ ] Course Description
- [ ] Test Score Prerequisites
- [x] Course Prerequisites
- [x] Automatic Restrictions
- [ ] Contact Hours
- [x] Cross-Listed/Stacked
- [ ] Registration Restrictions
- [ ] General Education Requirement
- [ ] Class
- [ ] Level
- [ ] Degree
- [ ] College
- [ ] Major
- [ ] Other

### 9. Repeat Status

- [ ] No
- [ ] # of Repeats
- [ ] Max Credits

### 10. Grading Basis

- [x] A-F
- [ ] P/NP
- [ ] NG

### 11. Implementation Date

- From: Fall/2014
- To: 99/9999

### 12. Cross Listed with

- [ ] Stacked with

### 13a. Impacted Courses or Programs

List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

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<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. BS, Geomatics</td>
<td>N/A</td>
<td>T.B. Quimby</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Initiator Name (typed): T.B. Quimby
Initiator Signed Initials: ______________ Date: ______________

### 13b. Coordination Email

Date: 1/13/14 submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

### 13c. Coordination with Library Liaison

Date: 1/13/14

### 14. General Education Requirement

Mark appropriate box:

- [ ] Oral Communication
- [ ] Written Communication
- [ ] Quantitative Skills
- [ ] Humanities
- [ ] Fine Arts
- [ ] Social Sciences
- [ ] Natural Sciences
- [ ] Integrative Capstone

### 15. Course Description (suggested length 20 to 50 words)

The course provides students with knowledge of and skills to apply physical principles, instrumentation, data analysis methods, and visualization products associated with hydrographic surveying, chart publication, and related marine measurement practices of government and industry.

### 16a. Course Prerequisite(s) (list prefix and number or test code and score)

(GEO A266 and GEO A466) with minimum grade of C or instructor approval.

### 16b. Co-requisite(s) (concurrent enrollment required)

### 16c. Automatic Restriction(s)

- [ ] College
- [ ] Major
- [ ] Class
- [ ] Level

### 16d. Registration Restriction(s) (non-codable)

### 17. Mark if course has fees Std CoEng fee

### 18. Mark if course is a selected topic course

### 19. Justification for Action

This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator (faculty only)

Jeff Hollingsworth
Initiator (TYPE NAME)

Approved Disapproved

Date Date

Approved Disapproved

Dean/Director of School/College Date

Approved Disapproved

Undergraduate/Graduate Academic Date

Approved Disapproved

Board Chair Date

Approved Disapproved

Provost or Designee Date
I. **Date Initiated:** December 4, 2013    **Date Revised:** January 11, 2014

II. **Course Information**
   a. **College:** EN
   b. **Course prefix:** GEO
   c. **Course number:** A433
   d. **Number of credits and contact hours:** 3.0 (3+0)
   e. **Course title:** Hydrographic Surveying
   f. **Grading Basis:** A-F
   g. **Implementation date:** Fall 2014
   h. **Cross listing:** None
   i. **Stacking:** None
   j. **Course Description:** Introduction to the theory and practice of Hydrographic Surveying. The course provides students with knowledge of and skills to apply physical principles, instrumentation, data analysis methods, and visualization products associated with hydrographic surveying, chart publication, and related marine measurement practices of government and industry.
   k. **Course attributes:** None
   l. **Course registration prerequisites/restrictions:**
      Prerequisites: [GEO A266 and GEO A466] with minimum grade of C or instructor approval.
   m. **Course fees:** Yes, standard CoEng and a course fee

III. **Course Level Justification**

   This course builds on the knowledge from GEO A266 and GEO A466. Students required to analyze complex data and apply advanced analytical skills to produce plans and documents relevant to the discipline.

IV. **Instructional Goals and Student Learning Outcomes:**

   A. **Instructional Goals:**
      The instructor will explain:
      1. The fundamental theories and practical applications of hydrographic surveying.
      2. The interactions of oceans and tidal water
      3. The national and international standards for hydrographic surveys
      4. Navigation, datums and positioning principles in hydrographic surveying
      5. Current hydrographic survey technology and operations.
B. Student Learning Outcomes & Assessments:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Access and interpret technical information from public databases for geodesy, tidal datums and descriptions, and historical surveys</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>B. Integrate information from nautical charts and publications in operating on the ocean and in the coastal zone, including basic navigation</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>C. Integrate tidal measurements in establishing vertical control</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>D. Formulate measurement programs that apply properties of sound in mapping ocean bathymetry, including the role of temperature and salinity on acoustics</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>E. Apply horizontal and vertical datums in defining cartographic features</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>F. Plan a hydrographic survey to specific international and national standards</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>G. Specify technology to acquire hydrographic data to specific standards</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>H. Specify and apply software for planning, acquisition and processing of hydrographic data</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>I. Report on a field of specific interest in applying hydrographic surveying technology to resolve science and engineering problems in Alaska</td>
<td>Assignments, Exams, Project</td>
</tr>
</tbody>
</table>
V. Typical Course Outline

1. Introduction
   1.1. Course organization and expectations
   1.2. Importance of charting to ocean science and engineering
   1.3. Terminology of hydrography
   1.4. Concept of survey methodology
   1.5. Sources of hydrographic information

2. Oceanography and Acoustics
   2.1. Structure of the ocean, continental shelf, and ocean basins
   2.2. Seawater salinity, temperature and density considerations
   2.3. Sea ice
   2.4. Sound in the sea and acoustics
   2.5. Practical applications and limitations of acoustics

3. Navigation and Positioning
   3.1. Chart reading and navigation
   3.2. Positioning techniques and technology
   3.3. Roles of tides and currents
   3.4. Operational aspects of charts, navigation, and positioning

4. Horizontal and Vertical Datums
   4.1. Datum definitions
   4.2. Horizontal positioning standards
   4.3. Vertical positioning standards
   4.4. Sources of datum information and documentation

5. Tides and tidal currents
   5.1. Tide-producing forces
   5.2. Dynamic theory of tides
   5.3. Tides as waves
   5.4. Tidal currents
   5.5. Tidal data collection, analysis, and reporting

6. Hydrographic Surveying Standards
   6.1. International Hydrographic Organization (IHO) standards
   6.2. National Oceanic and Atmospheric Administration (NOAA)
        specifications and deliverables
   6.3. United States Army Corps of Engineers (USACE) engineering and
        surveying standards
   6.4. Contractual standards
   6.5. Quality management procedures
7. Hydrographic Survey Operations
   7.1. Survey planning and data collection
   7.2. Sheet layout and data acquisition
   7.3. Field logistics
   7.4. Data processing and reporting

8. Hydrographic Survey Technology
   8.1. Vertical echosounder and multibeam tools
   8.2. Sidescan sonar and towed instruments
   8.3. Geophysical exploration
   8.4. LiDAR surveying
   8.5. Current and tidal instrumentation
   8.6. Geodetic positioning instrumentation

VI. Suggested Text and Bibliography

A. Suggested Text:

No single academic textbook is required for purchase by students. Rather students will be required to review materials available on the web or provided in hard copy by the instructor from the most current editions of the references listed below

B. Bibliography:


**1a. School or College**  
EN SOENGR

**1b. Division**  
choose one

**1c. Department**  
Geomatics

**2. Course Prefix**  
GEO

**3. Course Number**  
A457

**4. Previous Course Prefix & Number**  
N/A

**5a. Credits/CEUs**  
3

**5b. Contact Hours**  
(Lecture + Lab)  
(3+0)

**6. Complete Course Title**  
Boundary Law II

**Abbreviated Title for Transcript (30 character)**  
Boundary Law II

**7. Type of Course**  
☒ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development

**8. Type of Action:**  
☐ Add  or  ☒ Change  or  ☐ Delete

**9. Repeat Status No**  
# of Repeats  
Max Credits

**10. Grading Basis**  
☒ A-F  ☐ P/NP  ☐ NG

**11. Implementation Date**  
semester/year

From: Fall/2014  
To: 99/9999

**12. Cross Listed with**  
Stacked with

**Cross Listed Coordination Signature**

**13a. Impacted Courses or Programs:** List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

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<tbody>
<tr>
<td>Geomatics BS</td>
<td>N/A</td>
<td>T.B. Quimby</td>
</tr>
<tr>
<td>Legal Studies BA</td>
<td>1/13/14</td>
<td>Deb Periman</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Initiator Name (typed): T.B. Quimby  
Initiator Signed Initials:  
Date:**

**13b. Coordination Email**  
submitted to Faculty Listserv:  
([uaa-faculty@lists.uaa.alaska.edu](mailto:uaa-faculty@lists.uaa.alaska.edu))

**13c. Coordination with Library Liaison**  
Date: 1/13/14

**14. General Education Requirement**  
Mark appropriate box:

- [ ] Oral Communication  
- [ ] Written Communication  
- [ ] Quantitative Skills  
- [ ] Humanities  
- [ ] Fine Arts  
- [ ] Social Sciences  
- [ ] Natural Sciences  
- [ ] Integrative Capstone

**15. Course Description**  
(suggested length 20 to 50 words)

Alaskan survey history and case law, Alaska Statutes and Administrative code, writing legal descriptions and the standards of practice for surveying in Alaska.

**16a. Course Prerequisite(s) (list prefix and number or test code and score)**  
GEO A369 with a minimum grade of C.

**16b. Co-requisite(s) (concurrent enrollment required)**

**16c. Automatic Restriction(s)**

- [ ] College  
- [ ] Major  
- [ ] Class  
- [ ] Level

**16d. Registration Restriction(s) (non-codable)**

**17. ☒ Mark if course has fees Std CoEng fee**

**18. ☐ Mark if course is a selected topic course**

**19. Justification for Action**

This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

**Initiator (faculty only)  
Jeff Hollingsworth  
Initiator (TYPE NAME)**

- [ ] Approved  
- [ ] Disapproved

**Dean/Director of School/College  
Date**

- [ ] Approved  
- [ ] Disapproved

**Undergraduate/Graduate Academic Board Chair  
Date**

- [ ] Approved  
- [ ] Disapproved

**Provost or Designee  
Date**

- [ ] Approved  
- [ ] Disapproved
I. Date Initiated: December 4, 2013  Date Revised: January 11, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number: A457
   d. Number of credits and contact hours: 3.0 (3+0)
   e. Course title: Boundary Law II
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Alaskan survey history and case law, Alaska Statutes and Administrative code, writing legal descriptions and the standards of practice for surveying in Alaska.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Prerequisite: GEO A369 with a minimum grade of C.
   m. Course fees: Yes, standard CoEng and Geomatics course fee

III. Course Level Justification

   This course builds on the material presented in GEO A369. Students are expected to research, compare, and analyze legal issues.

IV. Instructional Goals and Student Learning Outcomes:

   A. Instructional Goals:
      The instructor will explain:
      1. Alaska State Statutes and Administrative Code applicable to land surveying
      2. The Alaska Easement Law
      3. ALTA/ACSM survey procedures
      4. Elements of and preparing legal description
B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Apply Alaska State Statutes and Administrative Code applicable to land surveying</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>B. Analyze and apply the Alaska Easement Law</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>C. Understand and Interpret ALTA/ACSM survey procedures</td>
<td>Assignments, Exams, Project</td>
</tr>
<tr>
<td>D. Apply elements of and prepare legal description</td>
<td>Assignments, Exams, Project</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Alaska Easement Law
   1.1. Highway rights of way in Alaska
   1.2. General Alaska easement law
   1.3. RS-2477 trails cases
   1.4. Section line easement
   1.5. Public land order cases
   1.6. Public prescriptive
   1.7. Rights across private lands

2. Alaska Statutes
   2.1. AS Title 08 - Business and Professions
   2.2. AS Title 09 - Code of Civil Procedure
   2.3. AS Title 10 - Incorporation & Associations
   2.4. AS Title 11 - Criminal Law
   2.5. AS Title 18 Health, Safety, and Housing
   2.6. AS Title 19 - Highways & Ferries
   2.7. AS Title 27 - Mining
   2.8. AS Title 29 - Municipal Government
   2.9. AS Title 34 - Property
   2.10. AS Title 35 - Public Buildings, Works and Improvements
   2.11. AS Title 36 - Public Contracts
   2.12. AS Title 38 - Public Lands
   2.13. AS Title 40 - Public Records & Recorders
   2.14. AS Title 44 - State Government
3. Administrative Codes
   3.1. 11 AAC - Natural Resources
   3.2. 12 AAC - Professional and Vocational Regulations
   3.3. 17 AAC - Department of Transportation and Public Facilities
   3.4. 18 AAC - Environmental Conservation

4. Federal Laws Affecting Alaska
   4.1. Alaska Native Claims Settlement Act
   4.2. Federal Statute 25 CFR, Parts 150 and 169
   4.3. Alaska Railroad Transfer Act

5. Writing and Interpreting Legal Descriptions
   5.1. Types of legal descriptions
   5.2. Description elements
   5.3. Writing legal descriptions

6. Flood Plains and Wetlands
   6.1. National Flood Insurance Program (NFIP)
   6.2. Grade on structures
   6.3. Plat preparation for the NFIP

7. American Land Title Association (ALTA) / American Congress on Surveying
   and Mapping (ACSM) Surveys
   7.1. Standards of survey
   7.2. Current ALTA/ACSM requirements

8. Water Boundaries
   8.1. Review of case law in regard to water boundaries
   8.2. Court decisions important to Alaska
   8.3. Isostatic rebound, glaciers, and earthquakes
   8.4. Interpretations of meanderability

VI. Suggested Text and Bibliography

A. Suggested Text:

(ASPLS), Alaska, 2013

B. Bibliography:

Beardsley, D. *Alaska Easement Law*, IRWA publication, 1999


**Course Action Request**  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Course

<table>
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<tr>
<td>GEO</td>
<td>A459</td>
<td>N/A</td>
<td>3</td>
<td>(3+0)</td>
</tr>
</tbody>
</table>

6. Complete Course Title  
Geodetic Geomatics

Abbreviated Title for Transcript (30 character)

7. Type of Course  
☑ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development

8. Type of Action:  
☐ Add  ☑ Change  ☐ Delete

If a change, mark appropriate boxes:

- ☐ Prefix
- ☐ Credits
- ☐ Course Number
- ☐ Contact Hours
- ☐ Repeat Status
- ☐ Title
- ☐ Course Description
- ☐ Course Prerequisites
- ☐ Co-requisites
- ☐ Grading Basis
- ☐ Cross-Listed/Stacked
- ☐ Registration Restrictions
- ☐ General Education Requirement
- ☐ Test Score Prerequisites
- ☐ Registration Restrictions
- ☐ Credit Type
- ☐ College
- ☐ Major
- ☐ Corequisites
- ☐ Other
- ☐ (please specify)

9. Repeat Status No  
# of Repeats  Max Credits

10. Grading Basis  
☐ A-F  ☑ P/NP  ☐ NG

11. Implementation Date  
semester/year  
From: Fall/2014  To: 99/9999

12. ☐ Cross Listed with  
☐ Stacked with  
Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

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</tr>
<tr>
<td>2. Natural Sciences BS</td>
<td>1/13/14</td>
<td>Khrys Duddleston</td>
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Initiator Name (typed): T.B. Quimby  
Initiator Signed Initials: _________  Date: __________

13b. Coordination Email  
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

Date: 1/13/14

13c. Coordination with Library Liaison  
Date: 1/13/14

14. General Education Requirement  
Mark appropriate box:

☐ Oral Communication  ☐ Written Communication  ☐ Quantitative Skills  ☐ Humanities
☐ Fine Arts  ☐ Social Sciences  ☐ Natural Sciences  ☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)

☐ College  ☐ Major  ☐ Class  ☐ Level

16d. Registration Restriction(s) (non-codable)

17. ☐ Mark if course has fees

18. ☐ Mark if course is a selected topic course

19. Justification for Action  
This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator (faculty only)  
Jeff Hollingsworth

Initiator (TYPE NAME)

Approved  ☐ Disapproved

Dean/Director of School/College  Date

Approved  ☐ Disapproved

Undergraduate/Graduate Academic  Date

Approved  ☐ Disapproved

Board Chair  Date

Approved  ☐ Disapproved

Provost or Designee  Date

283
# Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>EN SOENGR</th>
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<tr>
<td>1b. Division</td>
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<tr>
<td>1c. Department</td>
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<tr>
<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours (Lecture + Lab)</th>
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<tbody>
<tr>
<td>GEO</td>
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<td>(1+6)</td>
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<table>
<thead>
<tr>
<th>6. Complete Course Title</th>
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<tbody>
<tr>
<td>Geomatics Capstone Project Geo Capstone</td>
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<table>
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<tr>
<th>7. Type of Course</th>
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<th>Professional Development</th>
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<th>8. Type of Action:</th>
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<th>Change</th>
<th>Delete</th>
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If a change, mark appropriate boxes:
- Prefix
- Course Number
- Credits
- Repeat Status
- Contact Hours
- Grading Basis
- Cross-Listed/Stacked
- Title
- Co-requisites
- Course Description
- Registration Restrictions
- Test Score Prerequisites
- General Education Requirement
- Automatic Restrictions
- Other (please specify)

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<tbody>
<tr>
<td>Cross-Listed Coordination Signature</td>
<td></td>
</tr>
</tbody>
</table>

### 13a. Impacted Courses or Programs:
List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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<tbody>
<tr>
<td>Geomatics UC</td>
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<td>T.B. Quimby</td>
</tr>
<tr>
<td>Geomatics BS</td>
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<td>T.B. Quimby</td>
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<tr>
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Initiator Name (typed): T.B. Quimby
Initiator Signed Initials: _________
Date: __________

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<th>13b. Coordination Email</th>
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<tbody>
<tr>
<td>submitted to Faculty Listserv: <a href="mailto:uaa-faculty@lists.uaa.alaska.edu">uaa-faculty@lists.uaa.alaska.edu</a></td>
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<tr>
<th>14. General Education Requirement</th>
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<td>Oral Communication</td>
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<td>Fine Arts</td>
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<table>
<thead>
<tr>
<th>15. Course Description (suggested length 20 to 50 words)</th>
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<tbody>
<tr>
<td>Students complete a capstone project in Geomatics. Utilizes techniques of research, design, data compilation, analysis, and mapping learned throughout the Geomatics curriculum to complete a Geomatics project. Professional standards and ethical concerns for Geomatics professionals.</td>
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<table>
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<tr>
<th>16a. Course Prerequisite(s) (list prefix and number or test code and score)</th>
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<tr>
<td>GEO A357 and GEO A466 and GEO A365 or GEO A357 and GEO A466 and GIS A367 and GIS A458 or GEO A357 and GEO A466 and GIS A367 and GIS A458 and CSCE A360 or GIS A367 and GIS A458 with minimum grade of C.</td>
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<table>
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<tr>
<th>16b. Co-requisite(s) (concurrent enrollment required)</th>
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<td>ESM A450</td>
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<td>College</td>
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<thead>
<tr>
<th>16d. Registration Restriction(s) (non-codable)</th>
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</table>

<table>
<thead>
<tr>
<th>17.</th>
<th>Mark if course has fees Std CoEng fee</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>18.</th>
<th>Mark if course is a selected topic course</th>
</tr>
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</table>

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<tr>
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<td>This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.</td>
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Marked with:
- [ ] College
- [ ] Major
- [ ] Class
- [ ] Level
- [ ] Credit
- [ ] CEU
- [ ] Professional Development
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<tr>
<td>Initiator (faculty only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeff Hollingsworth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initiator (TYPE NAME)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department Chair</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College/School Curriculum Committee Chair</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Dean/Director of School/College</td>
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<tr>
<td>Undergraduate/Graduate Academic Board Chair</td>
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<tr>
<td>Provost or Designee</td>
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</tbody>
</table>
COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: January 6, 2014  Date Revised: January 11, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number: A460
   d. Number of credits and contact hours: 3.0 (1+6)
   e. Course title: Geomatics Capstone Project
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Students complete a capstone project in Geomatics. Use of all prior course work in the major. Utilizes techniques of research, design, data compilation, analysis, and mapping to complete a Geomatics project. Professional standards and ethical concerns for Geomatics professionals. Students work with faculty to develop acceptable project proposals before starting work.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions: Specifics corresponding to which program in Geomatics the students are in:
      Prerequisites: [[GEO A357 and GEO A466 and GEO A365] or [GEO A357 and GEO A466 and GIS A367 and GIS A458] or [GEO A357 and GEO A466 and GIS A367 and GIS A458 and CSCE A360] or [GIS A367 and GIS A458]] with minimum grade of C.
      Corequisite: ESM A450
   m. Course fees: Yes, standard CoEng course fee

III. Course Level Justification

This is the capstone course for the Geomatics degrees and certificates. It is designed to allow integration of several parts of the specific program the students are enrolled in, as well as allow students to practice design thinking and problem solving.
IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals:
The instructor will:
1. Explain how to plan and execute a project on a Geomatics topic which integrates knowledge obtained in earlier Major and GER courses and from a variety of information sources.
2. Explain how to create a professional report and make an oral presentation of the project
3. Discuss the importance of critical, constructive, and creative thinking in completing Geomatics projects using a wide range of knowledge and skills
4. Explain the importance and practice of professional and ethical behavior

B. Student Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Create a project proposal, with a research component, which integrates knowledge from earlier course work in the Major and GER</td>
<td>Discussion with faculty, reports and presentation</td>
</tr>
<tr>
<td>B. Conduct primary and secondary research</td>
<td>Discussion with faculty, reports and presentation</td>
</tr>
<tr>
<td>C. Critically analyze a geomatics problem within the student’s concentration.</td>
<td>Discussion with faculty, reports and presentation</td>
</tr>
<tr>
<td>D. Integrate knowledge from earlier courses in the Geomatics program and General Education to allow synthesis of a solution which balances client needs, societal concerns, and ethical considerations.</td>
<td>Discussion with faculty, reports and presentation</td>
</tr>
<tr>
<td>E. Present findings and results in oral and written form.</td>
<td>Discussion with faculty, reports and presentation</td>
</tr>
</tbody>
</table>

C. GER Capstone Criteria:

1. Knowledge integration incorporated as part of the course design: As a Major capstone course, the major intent is to have the student apply all their prior learning to development, solution, and reporting of a geomatics problem. This necessitates the integration of Major knowledge as well as knowledge
obtained from GER courses (quantitative skills and written and oral communications are heavily used. Humanities, Social Science, and Fine Arts may play a role depending on the nature of the project.)

2. **Knowledge integration is specifically addressed as part of the outcomes assessment**: This is explicitly mentioned in SLOs A and D, however they are implied in the other SLOs.

3. **At least 3 out of 4 other Instructional Goals and Student Learning Outcomes are part of the course design**:
   a. **Effective Communication**: Effective communication is explicitly covered in Instructional Goal #2 and in SLOs A and E.
   b. **Critical Thinking**: Critical thinking is explicitly covered in Instructional Goal #3 and in SLO C.
   c. **Information Literacy**: Information Literacy is explicitly covered in Instructional Goal #1 and in SLO B.
   d. **Quantitative Perspectives**: The nature of the Major is such that all projects rely heavily on quantitative skills. The Instructional Goals (#1 and #3) and SLOs (A, C, and D) which refer to the Major all map strongly to the use of quantitative perspectives.

4. **Performance in Knowledge Integration and at least 2 of the other chosen Instructional Goals and Student Outcomes referenced in 3 are assessed**: The students’ attainment of all the SLOs is assessed.

5. **Generates student artifacts that demonstrate achievement in the student outcomes**: The primary artifact is the final project submitted and presented by the students.

**Typical Course Outline**

1. **Research Techniques**
   1.1. Primary research
   1.2. Secondary research
   1.3. Thesis statements and project proposals

2. **Integrating Knowledge from Different Sources to Solve a Problem**
   2.1. Identification of required knowledge
   2.2. Balancing conflicting demands

3. **Presentation**
   3.1. Analysis of audience, purpose, and approach
   3.2. Oral presentations
   3.3. Written presentations
   3.4. Graphical and video techniques

4. **Ethical and Professional Considerations**
   4.1. Surveyor’s code of ethics
   4.2. Other codes of ethics
   4.3. Professional affiliations
4.4. Attributes of a professional

VI. Suggested Text and Bibliography

A. Suggested Text:

Text(s) vary depending upon the student’s individual topic.

B. Bibliography:


Course Action Request  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Course

<table>
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<td>Course Description</td>
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<td>Test Score Prerequisites</td>
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13a. Impacted Courses or Programs: List any programs or college requirements that require this course.  
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<td>T.B. Quimby</td>
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<td>3.</td>
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Initiator Name (typed): T.B. Quimby  
Initiator Signed Initials: ______    Date: __________

13b. Coordination Email | Date: 1/13/14  
submitted to Faculty Listserv: [uaa-faculty@lists.uaa.alaska.edu](mailto:uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison | Date: 1/13/14

14. General Education Requirement  
Mark appropriate box:  
- Oral Communication  
- Written Communication  
- Quantitative Skills  
- Humanities  
- Fine Arts  
- Social Sciences  
- Natural Sciences  
- Integrative Capstone

15. Course Description (suggested length 20 to 50 words)  

16a. Course Prerequisite(s) (list prefix and number or test code and score)  
(GEO A359 and GEO A265) with a minimum grade of C.

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)  
- College  
- Major  
- Class  
- Level

16d. Registration Restriction(s) (non-codable)

17. Mark if course has fees Std CoEng fee

18. Mark if course is a selected topic course

19. Justification for Action  
This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

Initiator (faculty only)  
Jeff Hollingsworth  
Initiator (TYPE NAME)  

Approved  
Disapproved  

Dean/Director of School/College  

Approved  
Disapproved  

Undergraduate/Graduate Academic  
Board Chair  

Approved  
Disapproved  

Provost or Designee  

Approved  
Disapproved  

Department Chair  

Approved  
Disapproved  

College/School Curriculum Committee Chair  

Approved  
Disapproved
 COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: December 23, 2013   Date Revised: January 11, 2014

II. Course Information
    a. College: EN
    b. Course prefix: GEO
    c. Course number: A466
    d. Number of credits and contact hours: 3.0 (2+2)
    e. Course title: Geopositioning
    f. Grading Basis: A-F
    g. Implementation date: Fall 2014
    h. Cross listing: None
    i. Stacking None
    k. Course attributes: None
    l. Course registration prerequisites/restrictions:
       Prerequisites: [GEO A359 and GEO A265] with a minimum grade of C.

III. Course Level Justification

This course develops advanced concepts in GIS and builds on the knowledge and skills of the prerequisite courses.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals.
   The instructor will:
   1. Explain the theoretical foundations of GNSS.
   2. Connect suitable observation methodologies to match specific project specifications and needs
   3. Demonstrate how to perform Static, Real Time Kinematic (RTK) and Autonomous GNSS observations
   4. Explain how to reduce and analyze GNSS measurements
   5. Explain how to apply GNSS technology to Geomatics applications
B. Student Learning Outcomes & Assessments:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Demonstrate an understanding of the theoretical foundations of GNSS</td>
<td>Assignments, exams, project</td>
</tr>
<tr>
<td>B. Demonstrate an understanding GNSS measurements and data collection</td>
<td>Assignments, exams, project</td>
</tr>
<tr>
<td>C. Demonstrate an understanding of GNSS data Reduction, analysis and adjustment of GNSS observations</td>
<td>Assignments, exams, project</td>
</tr>
<tr>
<td>D. Apply GNSS technology to geomatics application</td>
<td>Assignments, exams, project</td>
</tr>
<tr>
<td>E. Demonstrate an understanding of the theoretical foundations of GNSS</td>
<td>Assignments, exams, project</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Review of Geodetic Concepts
   1.1. Reference frames and measurement systems
   1.2. Geodetic and Cartesian co-ordinates
   1.3. Ellipsoid and geoid heights

2. Review of Previous Systems
   2.1. Astronomical observations
   2.2. TRANSIT Doppler
   2.3. Classical terrestrial systems
   2.4. Loran, Omega, and other radio positioning systems

   3.1. GPS (Global Positioning System)
   3.2. GLONASS (Russian Global Navigation Satellite System)
   3.3. Galileo
   3.4. Compass
   3.5. NAVSTAR
   3.6. Other satellite systems

4. GNSS Methodologies
   4.1. Pseudo-range measurements
   4.2. Carrier phase measurements
4.3. Static and rapid static measurements
4.4. Kinematics and real-time kinematic measurements
4.5. On-The-Fly (OTF) measurements

5. GNSS Elements
   5.1. Orbit determination and parameters
   5.2. Dilution of precision
   5.3. Ephemerides
   5.4. Reference frames

6. Signal Structures
   6.1. Modulation techniques, Code Division Multiple Access (CDMA)
   6.2. Message formats
   6.3. Selective Availability

7. Biases and Errors
   7.1. Range error
   7.2. Clock and orbit biases
   7.3. Ionospheric and tropospheric errors
   7.4. Observation errors
   7.5. Multipath errors

8. Solutions
   8.1. Types of solutions
   8.2. Relative positioning using differencing solutions
   8.3. Network solutions
   8.4. Constrained solutions
   8.5. Iono-free solutions
   8.6. Wide-lane solutions

   9.1. Theory and operation
   9.2. Kalman filtering
   9.3. GNSS/INS positioning

10. Adjustment of GNSS Measurements
    10.1. Reduction and checking
    10.2. Least squares adjustment
    10.3. Combining terrestrial measurements and GNSS
    10.4. Combining GNSS and INS measurements

11. Practical Aspects
    11.1. Planning and field operations
    11.2. Data processing
    11.3. GNSS survey standards
    11.4. Advantages and limitations of GNSS measurements
11.5. Continuously Operating Reference Station (CORS) and other base stations

12. Review of Geodetic Concepts
   12.1. Reference frames and measurement systems
   12.2. Geodetic and Cartesian co-ordinates
   12.3. Ellipsoid and geoid heights

13. Review of Previous Systems
   13.1. Astronomical observations
   13.2. TRANSIT Doppler
   13.3. Classical terrestrial systems
   13.4. Loran, Omega, and other radio positioning systems

VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:


   Rapp, R. *Lecture Notes (Geometric Geodesy I and II)*. Columbus, OH: The Ohio State University, 1991.
### Course Action Request

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course**

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
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<td>choose one</td>
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<tr>
<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
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<td>Analytical and Digital Photogrammetry</td>
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| 7. Type of Course | ☑ Academic | ☐ Preparatory/Development | ☐ Non-credit | ☐ CEU | ☐ Professional Development |

| 8. Type of Action: | ☐ Add | ☐ Change | ☑ Delete |

If a change, mark appropriate boxes:
- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Automatic Restrictions
- Class
- Level
- College
- Major
- Other

| 10. Grading Basis | ☑ A-F | ☐ P/NP | ☐ NG |

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<td>To: 99/9999</td>
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| 12. ☐ Cross Listed with | ☐ Stacked with |

| 13a. Impacted Courses or Programs: | List any programs or college requirements that require this course. |

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

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<th>Impact Program/Course</th>
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<th>Chair/Coordinator Contacted</th>
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<tbody>
<tr>
<td>1. Geomatics BS</td>
<td>N/A</td>
<td>T.B. Quimby</td>
</tr>
<tr>
<td>2. Natural Sciences BS</td>
<td>1/13/14</td>
<td>Khrys Duddleston</td>
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Initiator Name (typed): T.B. Quimby

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<tr>
<th>13b. Coordination Email</th>
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<td>submitted to Faculty Listserv:</td>
<td>(<a href="mailto:uaa-faculty@lists.uaa.alaska.edu">uaa-faculty@lists.uaa.alaska.edu</a>)</td>
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| 13c. Coordination with Library Liaison | Date: 1/13/14 |

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<td>☐ Humanities</td>
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| 15. Course Description (suggested length 20 to 50 words) |

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| 17. ☐ Mark if course has fees | 18. ☐ Mark if course is a selected topic course |

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<td>This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.</td>
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School or College: EN SOENGR  
Division: choose one  
Department: Geomatics  
Course Prefix: GEO  
Course Number: A490  
Previous Course Prefix & Number: N/A  
Credits/CEUs: 1-6  
Contact Hours (Lecture + Lab): (0-6+0-12)

Complete Course Title: Selected Advanced Topics in Geomatics  
Abbreviated Title for Transcript: Sel Adv Topics in Geomatics  
Type of Course: Academic  
Type of Action: Add  
Repeat Status: No  
Repeat No: 4  
Max Credits:  
Grading Basis: A-F, P/NP, NG  
Implementation Date: From: Fall/2014, To: 99/9999  
Cross Listed with:  
Staked with:  
Cross-Listed Coordination Signature:  

Impacted Courses or Programs:  
Impact Program/Course  
Date of Coordination  
Chair/Coordinator Contacted: T.B. Quimby  
Initiator Name (typed): T.B. Quimby  
Initiator Signed Initials:  
Date:  

General Education Requirement:  
Oral Communication  
Written Communication  
Quantitative Skills  
Humanities  
Fine Arts  
Social Sciences  
Natural Sciences  
Integrative Capstone  

Course Description (suggested length 20 to 50 words): Advanced theoretical or practical concepts in Geomatics. Specific course content is determined according to student needs, developments in technology, or licensing requirements. May be repeated 4 times with change of topics.

Initiator (faculty only): Gennady Gienko  
Initiator (TYPE NAME):  
Date:  

Approved  
Disapproved  
Dean/Director of School/College  
Date:  

Approved  
Disapproved  
Undergraduate/Graduate Academic  
Board Chair  
Date:  

Approved  
Disapproved  
Provost or Designee  
Date:  

Department Chair  
Date:  

College/School Curriculum Committee Chair  
Date:  

Disapproved
COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: January 16, 2014  Date Revised: January 16, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GEO
   c. Course number: A490
   d. Number of credits and contact hours: 1-6 (0-6+0-12)
   e. Course title: Selected Advanced Topics in Geomatics
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Advanced theoretical or practical concepts in Geomatics. Specific course content is determined according to student needs, developments in technology, or licensing requirements. May be repeated 4 times with change of topics.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Prerequisites: [GEO A246 and GIS A201] with a minimum grade of C.
   m. Course fees: Yes, standard CoEng course fee

III. Course Level Justification

This course enables the program to respond to specific needs of students, i.e. to meet professional licensing or certification requirements, to address a particular area of student interest, or to provide training in emerging technologies. Topics will require higher-order thinking skills in analysis, synthesis, and problem solving.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals:
   The instructor will:
   1. Present the selected topics in detail and attempt to tailor presentations to the interests of the class
   2. Include guest lectures as possible to broaden and deepen the topic offered
   3. Present theoretical and practical examples that are professionally useful to the class participants on finishing the class
   4. Encourage students to participate by sharing their professional experience with the class
B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Demonstrate and advanced understanding of the topic offered</td>
<td></td>
</tr>
<tr>
<td>B. Apply the principles and information provided to real-world problems</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>C. Apply critical and constructive thinking to understand technical and societal issues related to the topic</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>D. Evaluate, analyze, and synthesize solutions to problems in the topic area, and communicate to other professionals</td>
<td>Homework assignments, projects, exams</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

Specific topic and content will be proposed for each implementation of the course.

VI. Suggested Text and Bibliography

A. Suggested Text:

To be determined by instructor for each implementation of the course.

B. Bibliography:

To be determined by instructor for each implementation of the course.
Example: Implementation Details of this Course

Title: GEO A490 Laser Scanning: Theory and Practice 1 credit.

Course Description

Theoretical foundations of terrestrial laser scanning systems, together with practical application of terrestrial scanners and software. Measurement techniques and project planning.

Textbook


Instructional Goals

The instructor will cover material on the theory and application of terrestrial laser scanning. The class will work with the Leica ScanStation 2 to scan various scenes and process the measurement data, using Leica Cyclone software. The method used will be a combination of lectures and laboratory work.

Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Describe how laser scanning works</td>
<td>Homework assignments, quizzes, labs, exams</td>
</tr>
<tr>
<td>B. Use a terrestrial laser scanner to undertake simple jobs</td>
<td>Homework assignments, quizzes, labs, exams</td>
</tr>
<tr>
<td>C. Operate scanner software and explain their use of it</td>
<td>Homework assignments, labs, quizzes, exams</td>
</tr>
<tr>
<td>D. Design and implement a terrestrial laser scanning project</td>
<td>Homework assignments, labs, quizzes, projects, exams</td>
</tr>
</tbody>
</table>

Topical Outline

1. Theory of Scanning and Scanners
2. Error Models
3. Reconstructing the Image Space from the Point Cloud
4. Joining Point Clouds
5. Introducing Control and Minimizing Error
6. Production Processes
7. Recent Advances in Terrestrial Laser Scanning
Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
EN SOENGR

1b. Division
choose one

1c. Department
Geomatics

2. Course Prefix
GIS

3. Course Number
A101

4. Previous Course Prefix & Number
GIS A268

5a. Credits/CEUs
3

5b. Contact Hours
(Lecture + Lab) 2

6. Complete Course Title
Introduction to Geographic Information Systems
Intro to GIS

Abbreviated Title for Transcript (30 character)

7. Type of Course
☑ Academic ☐ Preparatory/Development ☐ Non-credit ☐ CEU ☐ Professional Development

8. Type of Action:
☐ Add ☑ Change ☐ Delete

If a change, mark appropriate boxes:
☐ Prefix ☑ Course Number ☐ Credit Hours ☐ Repeat Status
☐ Grading Basis ☐ Cross-Listed/Stacked ☐ Course Prerequisites ☐ Co-requisites
☐ Course Description ☐ Registration Restrictions ☐ General Education Requirement
☐ Test Score Prerequisites ☐ General Education Requirement ☐ Other (please specify)

9. Repeat Status No
☐ # of Repeats ☐ Max Credits

10. Grading Basis
☐ A-F ☑ P/NP ☐ NG

11. Implementation Date
From: Fall/2014 To: 99/9999

12. ☐ Cross Listed with ☐ Stacked with
Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. See attached list</td>
<td>1/13/14</td>
<td>T.B. Quimby</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Initiator Name (typed): T.B. Quimby Initiator Signed Initials: __________ Date: __________

13b. Coordination Email
Date: 1/13/14
submitted to Faculty ListServ: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
Date: 1/13/14

14. General Education Requirement
Mark appropriate box:
☐ Oral Communication ☐ Written Communication ☐ Quantitative Skills ☐ Humanities
☐ Fine Arts ☐ Social Sciences ☐ Natural Sciences ☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)
Introduction to the concepts and practical skills of Geographic Information Systems (GIS). Covers digital representation of geographic objects, data sources, data input and manipulation, map projection and coordinate systems, data management and analysis, and mapping and presentation of geographic information.

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)
☐ College ☐ Major ☐ Class ☐ Level

16d. Registration Restriction(s) (non-codable)

17. ☒ Mark if course has fees Std CoEng fee

18. ☐ Mark if course is a selected topic course

19. Justification for Action
This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator (faculty only) Date
Caixia Wang
Initiator (TYPE NAME)

☐ Approved ☐ Disapproved
Dean/Director of School/College Date

☐ Approved ☐ Disapproved
Undergraduate/Graduate Academic Board Chair Date

☐ Approved ☐ Disapproved
Provost or Designee Date
### Box 13a

<table>
<thead>
<tr>
<th>Course Being Changed:</th>
<th>GIS A101 (formerly GIS A268)</th>
<th>Introduction to GIS (formerly Elements of Geographic Information Systems)</th>
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</thead>
<tbody>
<tr>
<td><strong>Impacted Program or Course</strong></td>
<td><strong>Date of Notification</strong></td>
<td><strong>Chair/Coordinator Contacted</strong> (not listerv)</td>
</tr>
<tr>
<td>Environment &amp; Society BA</td>
<td>1/13/14</td>
<td>Dorn Van Dommelen</td>
</tr>
<tr>
<td>Environment &amp; Society BS</td>
<td>1/13/14</td>
<td>Dorn Van Dommelen</td>
</tr>
<tr>
<td>Geography Minor</td>
<td>1/13/14</td>
<td>Dorn Van Dommelen</td>
</tr>
<tr>
<td>Natural Sciences BS</td>
<td>1/13/14</td>
<td>Khrys Duddleston</td>
</tr>
<tr>
<td>Geographic Information Systems, UC</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>Geomatics BS</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>Geomatics AAS</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>Geographic Information Systems Minor</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>GIS A295</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>GIS A366</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>GIS A367</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>GIS A369</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
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<td>GIS A371</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
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<td>GIS A468</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
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<tr>
<td>GIS A490</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>GIS A495</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
</tbody>
</table>
COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: December 20, 2013    Date Revised: January 11, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GIS
   c. Course number: A101
   d. Number of credits and contact hours: 3.0 (2+2)
   e. Course title: Introduction to Geographic Information Systems
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Introduction to the concepts and practical skills of Geographic Information Systems (GIS). Covers digital representation of geographic objects, data sources, data input and manipulation, map projection and coordinate systems, data management and analysis, and mapping and presentation of geographic information.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions: None
   m. Course fees: Yes, standard CoEng course fee

III. Course Level Justification

This course is an introduction to Geographic Information Systems (GIS) and introduces the theoretical foundations and concepts of GIS. This is an entry level course.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals.
   The instructor will:
   1. Provide the fundamentals for GIS
   2. Present the basic theory and concepts of GIS
B. Student Learning Outcomes & Assessments:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Demonstrate the ability to gather and convert data for use in a GIS</td>
<td>Assignments, projects, and exams</td>
</tr>
<tr>
<td>B. Demonstrate the skills to translate data and work in different coordinate systems</td>
<td>Assignments, projects, and exams</td>
</tr>
<tr>
<td>C. Demonstrate the ability to read and interpret proper metadata</td>
<td>Assignments, projects, and exams</td>
</tr>
<tr>
<td>D. Demonstrate the ability to symbolize spatial data properly</td>
<td>Assignments, projects, and exams</td>
</tr>
<tr>
<td>E. Demonstrate the ability to digitize geographic features</td>
<td>Assignments, projects, and exams</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Introduction to GIS
   1.1. What is a GIS
   1.2. Major areas of practical applications

2. Map Projections and Coordinate Systems
   2.1. Map projections
   2.2. Coordinate systems
   2.3. Geocoding

3. Digital Representations of Geographic Objects
   3.1. Internal data formats of a GIS
   3.2. Data Models: raster and vector

4. GIS Data Input and Storage
   4.1. GIS data sources and data conversion
   4.2. Edit existing map features and their topologic relations
   4.3. Create your own GIS datasets

5. GIS Data Manipulation
   5.1. Map projection and coordinate transformation
   5.2. GIS data layer merging and clipping
   5.3. Attribute tables, table join and relate

6. GIS Database Query and Basic Spatial Analysis
   6.1. Attribute and spatial query
   6.2. Overlay query
   6.3. Proximity analysis
7. Maps and GIS Data Display
   7.1. Principles of cartographic design in GIS
   7.2. Map features symbolization and labeling

8. Data Standard and Quality
   8.1. Positional accuracy
   8.2. Attribute accuracy

VI. Suggested Text and Bibliography

A. Suggested Texts:


B. Bibliography:


## Course Action Request

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course**

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN SOENGR</td>
<td></td>
<td>Geomatics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIS</td>
<td>A123</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours (Lecture + Lab)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(1+ .5)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. Complete Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Geographic Information Systems (GIS)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Abbreviated Title for Transcript (30 character)</th>
</tr>
</thead>
</table>

### 7. Type of Course
- [x] Academic
- [ ] Preparatory/Development
- [ ] Non-credit
- [ ] CEU
- [ ] Professional Development

### 8. Type of Action:
- [ ] Add
- [ ] Change
- [x] Delete

If a change, mark appropriate boxes:
- [ ] Prefix
- [ ] Credits
- [ ] Title
- [ ] Grading Basis
- [ ] Course Description
- [ ] Test Score Prerequisites
- [ ] Automatic Restrictions
- [ ] Other
- [ ] Course Number
- [ ] Contact Hours
- [ ] Repeat Status
- [ ] Cross-Listed/Stacked
- [ ] Course Prerequisites
- [ ] Registration Restrictions
- [ ] General Education Requirement

### 9. Repeat Status No  
- [ ] # of Repeats
- [ ] Max Credits

### 10. Grading Basis
- [x] A-F
- [ ] P/NP
- [ ] NG

### 11. Implementation Date
- [ ] semester/year
- From: Fall/2014 To: 99/9999

### 12. Cross Listed with
- [ ] Stacked with

Cross-Listed Coordination Signature

### 13a. Impacted Courses or Programs:
List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

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<tbody>
<tr>
<td>1. None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Initiator Name (typed): **T.B. Quimby**  
Initiator Signed Initials: __________  
Date: __________

### 13b. Coordination Email
- [ ] submitted to Faculty Listserv: ([uaa-faculty@lists.uaa.alaska.edu](mailto:uaa-faculty@lists.uaa.alaska.edu))

### 13c. Coordination with Library Liaison
- [ ] Date: __________

### 14. General Education Requirement

- [ ] Mark appropriate box:
  - [ ] Oral Communication
  - [ ] Written Communication
  - [ ] Quantitative Skills
  - [ ] Humanities
  - [ ] Fine Arts
  - [ ] Social Sciences
  - [ ] Natural Sciences
  - [ ] Integrative Capstone

### 15. Course Description (suggested length 20 to 50 words)

### 16a. Course Prerequisite(s) (list prefix and number or test code and score)

### 16b. Co-requisite(s) (concurrent enrollment required)

### 16c. Automatic Restriction(s)

- [ ] College  
- [ ] Major  
- [ ] Class  
- [ ] Level

### 16d. Registration Restriction(s) (non-codable)

### 17. Mark if course has fees

### 18. Mark if course is a selected topic course

### 19. Justification for Action

This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

Initiator (faculty only)  
Initiator (TYPE NAME)  
**Gennady Gienko**

[Checkboxes and signatures for various approvals: Approved/Disapproved, Date]

[Additional approvals from: Dean/Director of School/College, Undergraduate/Graduate Academic, Board Chair, Provost or Designee]
### Course Action Request

**University of Alaska Anchorage**

Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN SOENGR</td>
<td>choose one</td>
<td>Geomatics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIS</td>
<td>A124</td>
<td>N/A</td>
<td>1</td>
<td>(Lecture + Lab)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Complete Course Title

**Introduction to GIS and Remote Sensing**

Abbreviated Title for Transcript (30 character)

7. Type of Course

- [x] Academic
- [ ] Preparatory/Development
- [ ] Non-credit
- [ ] CEU
- [ ] Professional Development

8. Type of Action

- [ ] Add
- [ ] Change
- [x] Delete

If a change, mark appropriate boxes:

- [ ] Prefix
- [ ] Credits
- [ ] Title
- [ ] Grading Basis
- [ ] Course Description
- [ ] Test Score Prerequisites
- [ ] Automatic Restrictions
- [ ] Other

- [ ] Course Number
- [ ] Contact Hours
- [ ] Repeat Status
- [ ] Cross-Listed/Stacked
- [ ] Course Prerequisites
- [ ] Registration Restrictions
- [ ] General Education Requirement

9. Repeat Status No

- [# of Repeats] Max Credits

10. Grading Basis

- [x] A-F
- [ ] P/NP
- [ ] NG

11. Implementation Date

- [semester/year]

From: Fall/2014 To: 99/9999

12. Cross Listed

- [ ] with
- [ ] Stacked with

**Cross-Listed Coordination Signature**

13a. Impacted Courses or Programs:

List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.ualaska.edu/governance](http://www.ualaska.edu/governance).

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<tbody>
<tr>
<td>1. None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
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</tbody>
</table>

Initiator Name (typed): T.B. Quimby

Initiator Signed Initials: _________ Date: ______________

13b. Coordination Email

submitted to Faculty Listserv: (uaa-faculty@lists.ualaska.edu)

13c. Coordination with Library Liaison

Date: 1/13/14

14. General Education Requirement

Mark appropriate box:

- [ ] Oral Communication
- [ ] Written Communication
- [ ] Quantitative Skills
- [ ] Humanities
- [ ] Fine Arts
- [ ] Social Sciences
- [ ] Natural Sciences
- [ ] Integrative Capstone

15. Course Description

(suggested length 20 to 50 words)

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)

- [ ] College
- [ ] Major
- [ ] Class
- [ ] Level

16d. Registration Restriction(s) (non-codable)

17. [ ] Mark if course has fees

18. [ ] Mark if course is a selected topic course

19. Justification for Action

This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

### Initiator (faculty only)

Gennady Gienko

Initiator (TYPE NAME)

- [ ] Approved
- [ ] Disapproved

Date: ______________

- [ ] Approved
- [ ] Disapproved

Dean/Director of School/College Date: ______________

- [ ] Approved
- [ ] Disapproved

Undergraduate/Graduate Academic Board Chair Date: ______________

- [ ] Approved
- [ ] Disapproved

Provost or Designee Date: ______________

- [ ] Approved
- [ ] Disapproved

College/School Curriculum Committee Chair Date: ______________

- [ ] Approved
- [ ] Disapproved

Department Chair Date: ______________

- [ ] Approved
- [ ] Disapproved

Date: ______________
Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

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<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours</th>
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<td>(Lecture + Lab) (1+0)</td>
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<th>Abbreviated Title for Transcript (30 character)</th>
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<th>Non-credit</th>
<th>CEU</th>
<th>Professional Development</th>
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<table>
<thead>
<tr>
<th>8. Type of Action:</th>
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<th>Delete</th>
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<tbody>
<tr>
<td></td>
<td>☑</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If a change, mark appropriate boxes:

- Prefix
- Credits
- Grading Basis
- Course Description
- Test Score Prerequisites
- Automatic Restrictions
- Class
- Level
- Other

9. Repeat Status No | # of Repeats | Max Credits
-----|--------------|--------------|

10. Grading Basis | ☑ A-F | ☑ P/NP | ☑ NG |

11. Implementation Date | semester/year |
| From: Fall/2014 | To: 99/9999 |

12. Cross Listed with

| ☑ | Stack with |

Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Please type into fields provided in table, if more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

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Initiator Name (typed): T.B. Quimby
Initiator Signed Initials: ___________ Date: ___________

13b. Coordination Email | Date: 1/13/14
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison | Date: 1/13/14

14. General Education Requirement
Mark appropriate box: Oral Communication | Written Communication | Quantitative Skills | Humanities
Fine Arts | Social Sciences | Natural Sciences | Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)

16d. Registration Restriction(s) (non-codable)

17. ☑ Mark if course has fees

18. ☑ Mark if course is a selected topic course

19. Justification for Action
This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

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<thead>
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307
**Course Action Request**

**University of Alaska Anchorage**  
Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
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<tr>
<td>EN SOENGR</td>
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<td>Geomatics</td>
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<tr>
<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours (Lecture + Lab)</th>
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<tr>
<td>GIS</td>
<td>A201</td>
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<td>(2+2)</td>
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**6. Complete Course Title**  
Intermediate Geographic Information Systems  
Intermediate GIS

**Abbreviated Title for Transcript (30 character)**

**7. Type of Course**  
☑ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development

**8. Type of Action:**  
☑ Add  ☐ Change  ☐ Delete

**9. Repeat Status No**  
# of Repeats  Max Credits

**10. Grading Basis**  
☑ A-F  ☐ P/NP  ☐ NG

**11. Implementation Date**  
semester/year  
From: Fall/2014  To: 99/9999

**12. Cross Listed with**  
Stacked with  
Cross-Listed/Stacked Coordination Signature

**13a. Impacted Courses or Programs:** List any programs or college requirements that require this course. Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

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Initiator Name (typed):  
T.B. Quimby

Initiator Signed Initials:  
_______

Date:  
_______

13b. Coordination Email  
submitted to Faculty Listserv:  
(uae-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison  
Date: 1/13/14

**14. General Education Requirement**  
Mark appropriate box:

☐ Oral Communication  ☐ Written Communication  ☐ Quantitative Skills  ☐ Humanities  ☐ Fine Arts  ☐ Social Sciences  ☐ Natural Sciences  ☐ Integrative Capstone

**15. Course Description**  
(suggested length 20 to 50 words)
Theoretical and practical examination of analytical methods used in advanced GIS. Topics include georeferencing, spatial analysis and inference, geospatial database, network analysis, and spatial modeling and visualization.

**16a. Course Prerequisite(s)**  
l(is list prefix and number or test code and score)
[MATH A108 or MATH A109 or any MATH course for which MATH A108 or MATH A109 is in the prerequisite chain] and GIS A101] with a minimum grade of C.

**16b. Co-requisite(s)**  
(concurrent enrollment required)

**16c. Automatic Restriction(s)**  
☐ College  ☐ Major  ☐ Class  ☐ Level

**16d. Registration Restriction(s)**  
(non-codable)

**17. ☑ Mark if course has fees Std CoEng fee**

**18. ☐ Mark if course is a selected topic course**

**19. Justification for Action**

This course is being added as part of a redesign of the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

Initiator (faculty only)  
Caixia Wang

Initiator (TYPE NAME)  
_______

Date:  
_______

☑ Approved  
☐ Disapproved

Dean/Director of School/College  
Date:  
_______

☑ Approved  
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Undergraduate/Graduate Academic  
Board Chair  
Date:  
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☑ Approved  
☐ Disapproved

College/School Curriculum Committee Chair  
Date:  
_______

☑ Approved  
☐ Disapproved

Department Chair  
Date:  
_______

☑ Approved  
☐ Disapproved
I.  **Date Initiated:** December 23, 2013  **Date Revised:** January 11, 2014

II.  **Course Information**

   a.  College: EN
   b.  Course prefix: GIS
   c.  Course number: A201
   d.  Number of credits and contact hours: 3.0 (2+2)
   e.  Course title: Intermediate GIS
   f.  Grading Basis: A-F
   g.  Implementation date: Fall 2014
   h.  Cross listing: None
   i.  Stacking: None
   j.  Course Description: Theoretical and practical examination of analytical methods used in advanced GIS. Topics include georeferencing, spatial analysis and inference, geospatial database, network analysis, and spatial modeling and visualization.
   k.  Course attributes: None
   l.  Course registration prerequisites/restrictions:
      Prerequisites: [[MATH A108 or MATH A109 or any MATH course for which MATH A108 or MATH A109 is in the prerequisite chain] and GIS A101] with a minimum grade of C.
   m.  Course fees: Yes, standard CoEng course fee

III.  **Course Level Justification**

   This course is to develop advanced concepts and skills built upon the introduction of GIS.

IV.  **Instructional Goals and Student Learning Outcomes:**

   A.  **Instructional Goals:**

      The instructor will explain:
      1.  Advanced concepts and theories of GIS
      2.  Georeferencing of spatial data in GIS
      3.  The implementations of spatial analysis and modeling in GIS context.
      4.  Network analysis
      5.  Typical workflow in GIS applications
## B. Student Learning Outcomes & Assessments:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Demonstrate understanding of various spatial data models and structures</td>
<td>Assignments, exams, project</td>
</tr>
<tr>
<td>B. Work with spatial and non-spatial data</td>
<td>Assignments, exams, project</td>
</tr>
<tr>
<td>C. Undertake spatial analyses using spatial and non-spatial data</td>
<td>Assignments, exams, project</td>
</tr>
<tr>
<td>D. Georeference raster data in GIS</td>
<td>Assignments, exams, project</td>
</tr>
<tr>
<td>E. Gather geo-spatial data, compile, analysis, and design various maps using GIS</td>
<td>Assignments, exams, project</td>
</tr>
</tbody>
</table>

## V. Typical Course Outline

1. Introduction  
2. The Nature of Geospatial Data  
3. Georeferencing  
4. Uncertainty  
5. Geospatial Data Modeling  
6. Creating and Maintaining Geospatial Databases  
7. Carography and Geovisualization  
8. Spatial Analysis and Inference  
9. Spatial Modeling with GIS

## VI. Suggested Text and Bibliography

### A. Suggested Text:


### B. Bibliography:


Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

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<thead>
<tr>
<th>1a. School or College</th>
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<tbody>
<tr>
<td>1b. Division</td>
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<td>1c. Department</td>
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<th># of Repeats</th>
<th>Max Credits</th>
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| 10. Grading Basis | ☒ A-F | ☐ P/NP | ☐ NG |

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<th>semester/year</th>
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Initiator Name (typed): T.B. Quimby
Initiator Signed Initials: Initator Signed Initials: Date: __________ |

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submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu) |

<table>
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<th>13c. Coordination with Library Liaison</th>
<th>Date: 1/13/14</th>
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14. General Education Requirement

Mark appropriate box:
☐ Oral Communication
☐ Written Communication
☐ Quantitative Skills
☐ Humanities
☐ Fine Arts
☐ Social Sciences
☐ Natural Sciences
☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

16a. Course Prerequisite(s) (list prefix and number or test code and score)

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16c. Automatic Restriction(s)

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16d. Registration Restriction(s) (non-codable)

17. ☐ Mark if course has fees

18. ☐ Mark if course is a selected topic course

19. Justification for Action

This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator (faculty only) Gennady Gienko
Initiator (TYPE NAME) |

Approved |
Disapproved |
Date |

Dean/Director of School/College |

Approved |
Disapproved |
Date |

Undergraduate/Graduate Academic |

Approved |
Disapproved |
Date |

Board Chair |

Approved |
Disapproved |
Date |

Provost or Designee |

Approved |
Disapproved |
Date |

312
# Course Action Request

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course**

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<td>2. Geographic Information Systems UC</td>
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<td>3. Geographic Information Systems Minor</td>
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Initiator Name (typed): **T.B. Quimby**

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<th>14. General Education Requirement</th>
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<thead>
<tr>
<th>15. Course Description (suggested length 20 to 50 words)</th>
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<tbody>
<tr>
<td>Fundamental concepts of geospatial data structures as well as methods and algorithms for manipulation of geospatial data. Geospatial vector and raster data, surfaces, and networks are also covered.</td>
</tr>
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<table>
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<tr>
<th>16a. Course Prerequisite(s) (list prefix and number or test code and score)</th>
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<td>[ENGR A161 and GIS A201] with a minimum grade of C.</td>
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<th>18. Mark if course is a selected topic course</th>
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<tbody>
<tr>
<td>Undergraduate/Graduate Academic Board Chair</td>
<td>Date</td>
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</table>

313
I. **Date Initiated:** December 19, 2013  
**Date Revised:** January 12, 2014

II. **Course Information**
   - **College:** EN
   - **Course prefix:** GIS
   - **Course number:** A301
   - **Number of credits and contact hours:** 3.0 (2+2)
   - **Course title:** Spatial Data Structures
   - **Grading Basis:** A-F
   - **Implementation date:** Fall 2014
   - **Cross listing:** None
   - **Stacking:** None
   - **Course Description:** Fundamental concepts of geospatial data structures as well as methods and algorithms for manipulation of geospatial data. Geospatial vector and raster data, surfaces, and networks are also covered.
   - **Course attributes:** None
   - **Course registration prerequisites/restrictions:** Prerequisites: [ENGR A161 and GIS A201] with a minimum grade of C.
   - **Course fees:** Yes, standard CoEng course fee

III. **Course Level Justification**

This course provides the students with the fundamental concepts of geospatial data structures and methods and algorithms of manipulations with geospatial data. The course is built upon previous course work and requires understanding of basic geospatial concepts, methods, and vocabulary of the Geomatics discipline. The course builds analytical skills.

IV. **Instructional Goals and Student Learning Outcomes:**

A. **Instructional Goals:**
   - The instructor will:
     1. Provide overview of basic database concepts relevant to geospatial data
     2. Introduce data structures to store vector and raster data
     3. Explain methods and introduce algorithms of manipulating with vector and raster data
     4. Introduce data structure and basic algorithms for surfaces
     5. Provide an overview of data structures and basic algorithms for networks
6. Provide an overview of data structures and basic algorithms for storage of and access to geospatial data

B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Identify basic differences between spatial and non-spatial databases</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>B. Apply data structures for geospatial vector data</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>C. Use vector data algorithms to address basic problems on spatial data</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>D. Use raster data algorithms to address basic problems on spatial data</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>E. Identify algorithms for surfaces to solve basic problems on spatial data</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>F. Demonstrate understanding of data structures and algorithms for networks</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>G. Use algorithms for accessing and storing geospatial data</td>
<td>Homework assignments, exams</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Object Representation
   1.1. Real world objects and conceptual models
   1.2. Abstract mathematical models
   1.3. Geospatial data models

2. Databases
   2.1. Intro to databases
   2.2. Relational database
   2.3. Storing spatial data in a relational database

3. Vector Data Structures
   3.1. Simple storage of vector data
   3.2. Topological storage of vector data
   3.3. Introduction to topology
   3.4. Topological data structures

4. Vector Algorithms for Lines
   4.1. Simple line intersection algorithm
   4.2. Limitations of line intersection algorithms
   4.3. Straight and wiggly lines
4.4. Calculations on lines
4.5. Line intersection

5. Vector Algorithms for Areas
5.1. Calculations on areas: single polygons
5.2. Calculations on areas: multiple polygons
5.3. Point in polygon: simple algorithm

6. The Efficiency of Algorithms
6.1. How is algorithm efficiency measured?
6.2. Efficiency of the line intersection algorithm
6.3. Efficiency of other algorithms

7. Raster Data Structures
7.1. Raster data in databases
7.2. Raster data structures: the array
7.3. Run length encoding and quadtrees
7.4. Data structures for images

8. Raster Algorithms
8.1. Raster algorithms: attribute query for run length encoded data
8.2. Raster algorithms: attribute query for quadtrees
8.3. Raster algorithms: area calculations

9. Data Structures for Surfaces
9.1. Data models for surfaces
9.2. Algorithms for creating grid surface models
9.3. Algorithms for creating a triangulated irregular network

10. Algorithms for Surfaces
10.1. Elevation, slope and aspect
10.2. Hydrological analysis using a Triangulated Irregular Network (TIN)
10.3. Determining flow direction using a gridded Digital Elevation Model (DEM)
10.4. Using the flow directions for hydrological analysis

11. Data Structures and Algorithms for Networks
11.1. Networks in vector and raster
11.2. Shortest path algorithm
11.3. Data structures for network data
11.4. Faster algorithms for finding the shortest route

12. Strategies for Efficient Data Access
12.1. Tree data structures
12.2. Indexing and storing data using both coordinates
12.3. Space-filling curves for spatial data
12.4. Spatial filling curves and data clustering
12.5. Space-filling curves for indexing spatial data
12.6. Caching

VI. Suggested Text and Bibliography

A. Suggested Text:

B. Bibliography:
### 1. School or College

EN SOENGR

### 1b. Division

choose one

### 1c. Department

Geomatics

### 2. Course Prefix

GIS

### 3. Course Number

A351

### 4. Previous Course Prefix & Number

GEO A167

### 5a. Credits/CEUs

3

### 5b. Contact Hours (Lecture + Lab)

(2+2)

### 6. Complete Course Title

Remote Sensing

### 7. Type of Course

☒ Academic ☐ Preparatory/Development ☐ Non-credit ☐ CEU ☐ Professional Development

### 8. Type of Action:

☐ Add ☒ Change ☐ Delete

If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Automatic Restrictions
- Other

### 9. Repeat Status No # of Repeats Max Credits

### 10. Grading Basis

☒ A-F ☐ P/NP ☐ NG

### 11. Implementation Date

semester/year

From: Fall/2014 To: 99/9999

### 12. Cross Listed with

Stacked with

Cross-Listed Coordination Signature

### 13a. Impacted Courses or Programs:

List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

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<tr>
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<th>Chair/Coordinator Contacted</th>
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</table>

Initiator Name (typed): T.B. Quimby

Initiator Signed Initials: _________ Date: __________

### 13b. Coordination Email

Date: 1/13/14

Submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

### 13c. Coordination with Library Liaison

Date: 1/13/14

### 14. General Education Requirement

Mark appropriate box:

☐ Oral Communication ☐ Written Communication ☐ Quantitative Skills ☐ Humanities

☐ Fine Arts ☐ Social Sciences ☐ Natural Sciences ☐ Integrative Capstone

### 15. Course Description (suggested length 20 to 50 words)

Principles of image formation, electromagnetic spectrum, imaging systems, photo interpretation and image classification using image analysis software.

### 16a. Course Prerequisite(s) (list prefix and number or test code and score)

[PHYS A124 and PHYS A124L] with a minimum grade of C.

### 16b. Co-requisite(s) (concurrent enrollment required)

GIS A201

### 16c. Automatic Restriction(s)

☒ College ☐ Major ☐ Class ☐ Level

### 16d. Registration Restriction(s) (non-codable)

### 17. ☒ Mark if course has fees Std CoEng fee

### 18. ☐ Mark if course is a selected topic course

### 19. Justification for Action

This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

Gennady Gienko

Initiator (TYPE NAME)

Initiator (faculty only) Date

☐ Approved ☐ Disapproved

Dean/Director of School/College Date

Undergraduate/Graduate Academic Date

Board Chair

Provost or Designee Date

Department Chair Date

College/School Curriculum Committee Chair Date

Approved

Disapproved
## Box 13a

<table>
<thead>
<tr>
<th>Course Being Changed:</th>
<th>GIS A351 (formerly GEO A167)</th>
<th>Remote Sensing (formerly Remote Sensing and Image Analysis)</th>
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<tbody>
<tr>
<td><strong>Impacted Program or Course</strong></td>
<td><strong>Date of Notification</strong></td>
<td><strong>Chair/Coordinator Contacted (not listerve)</strong></td>
</tr>
<tr>
<td>Natural Sciences BS</td>
<td>1/13/14</td>
<td>Khrys Duddleston</td>
</tr>
<tr>
<td>Geomatics BS</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>Geomatics AAS</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>Geographic Information Systems UC</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>Geographic Information Systems Minor</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
</tbody>
</table>
COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: December 19, 2013   Date Revised: January 12, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GIS
   c. Course number: A351
   d. Number of credits and contact hours: 3.0 (2+2)
   e. Course title: Remote Sensing
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Principles of image formation, electromagnetic spectrum, imaging systems, photo interpretation and image classification using image analysis software.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Prerequisites: [PHYS A124 and PHYS A124L] with a minimum grade of C.
      Co-requisite: GIS A201
   m. Course fees: Yes, standard CoEng course fee

III. Course Level Justification
The course builds upon basic concepts of Geomatics from previous 100-level courses and fundamental physics. The course creates a solid foundation for more advanced work in area of image analysis.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals:
The instructor will:
1. Provide overview of remote sensing processes
2. Explain methods of image formation
3. Explain principles of interaction of electromagnetic radiation with targets
4. Provide overview of modern remote sensing systems
5. Introduce basic techniques of image enhancement using industry standard software
6. Explain theory of image interpretation
7. Illustrate techniques of visual image interpretation
8. Illustrate methods and techniques to analyze remotely sensed image

B. Student Learning Outcomes & Assessment:

<table>
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<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
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</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Demonstrate understanding of the theory of remote sensing</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>B. Enhance remotely sensed images</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>C. Implement visual image interpretation</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>D. Use digital image processing software to enhance and classify images</td>
<td>Homework assignments, exams</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

   1.1. Introduction
   1.2. Electromagnetic spectrum
   1.3. Remote sensors

2. Elements of Photographic Systems
   2.1. Introduction
   2.2. History
   2.3. Cameras

3. Principles of Airphoto Interpretation
   3.1. Introduction
   3.2. Fundamentals of airphoto interpretation
   3.3. Recognition elements
   3.4. Stereoscopic viewing

4. Acquisition of Aerial Photographs
   4.1. Introduction
   4.2. Considerations
   4.3. Specification

5. Remote Sensing Sensors and Systems
   5.1. Overview
   5.2. Earth observation platforms
   5.3. Thermal sensors
   5.4. RADAR sensors
   5.5. LiDAR sensors
   5.6. Earth resource satellites
6. Digital Image Processing
   6.1. Introduction
   6.2. Image rectification
   6.3. Image enhancement

7. Multispectral Image Classification
   7.1. Principles of image classification
   7.2. Supervised and unsupervised classifications

8. Applications of Remote Sensing

VI. Suggested Text and Bibliography

A. Suggested Text:

B. Bibliography:
**Course Action Request**

**University of Alaska Anchorage**

Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>EN SOENGR</th>
<th>1b. Division</th>
<th>choose one</th>
<th>1c. Department</th>
<th>Geomatics</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Course Prefix</td>
<td>GIS</td>
<td>3. Course Number</td>
<td>A366</td>
<td>4. Previous Course Prefix &amp; Number</td>
<td>N/A</td>
</tr>
<tr>
<td>5a. Credits/CEUs</td>
<td>3</td>
<td>5b. Contact Hours (Lecture + Lab)</td>
<td>(2+2)</td>
<td></td>
<td></td>
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</table>

6. Complete Course Title

Spatial Analysis

Spatial Analysis

Abbreviated Title for Transcript (30 character)

7. Type of Course:

- ☒ Academic
- Preparatory/Development
- Non-credit
- CEU
- Professional Development

8. Type of Action:

- ☐ Add
- ☒ Change
- ☐ Delete

If a change, mark appropriate boxes:

- ☐ Prefix
- ☐ Credits
- ☒ Title
- ☐ Grading Basis
- ☒ Course Description
- ☐ Test Score Prerequisites
- ☐ Automatic Restrictions
- ☐ Other

9. Repeat Status No: ☐ # of Repeats

10. Grading Basis:

- ☒ A-F
- ☐ P/NP
- ☐ NG

11. Implementation Date:

- Semester/year: Fall/2014 To: 99/9999

12. ☐ Cross Listed with

- ☐ Stacked with

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

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<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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</thead>
<tbody>
<tr>
<td>1. See attached checklist</td>
<td></td>
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<tr>
<td>2.</td>
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<tr>
<td>3.</td>
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</tbody>
</table>

Initiator Name (typed): T.B. Quimby

Initiator Signed Initials: __________ Date: __________

13b. Coordination Email: 1/13/14

submitted to Faculty Listserv: uaa-faculty@lists.uaa.alaska.edu

13c. Coordination with Library Liaison: 1/13/14

14. General Education Requirement

Mark appropriate box:

- ☐ Oral Communication
- ☐ Written Communication
- ☐ Quantitative Skills
- ☐ Humanities
- ☐ Fine Arts
- ☐ Social Sciences
- ☐ Natural Sciences
- ☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

Theoretical foundation for, and practical applications of, the statistical analysis of spatial data. Topics include characterization of spatial data, techniques for visualizing, exploring and modeling spatial data distributed as point patterns, continuous data, area data, and spatial interaction data.

16a. Course Prerequisite(s) (list prefix and number or test code and score)

[GIS A301 and STAT A253] with a minimum grade of C.

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)

- ☐ College
- ☐ Major
- ☐ Class
- ☐ Level

16d. Registration Restriction(s) (non-codable)

17. ☒ Mark if course has fees Std CoEng fee

18. ☐ Mark if course is a selected topic course

19. Justification for Action

This course is being added as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator (faculty only)

Caixia Wang

Initiator (TYPE NAME) __________________________ Date: __________

Approved

Disapproved

Dean/Director of School/College

Date

Approved

Disapproved

Undergraduate/Graduate Academic

Board Chair

Date

Approved

Disapproved

Provost or Designee

Date
<table>
<thead>
<tr>
<th>Course Being Changed:</th>
<th>GIS A366</th>
<th>Spatial Analysis (formerly Spatial Information Analysis and Modeling)</th>
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</table>
COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: December 23, 2013     Date Revised: January 12, 2014

II. Course Information
    a. College: EN
    b. Course prefix: GIS
    c. Course number: A366
    d. Number of credits and contact hours: 3.0 (2+2)
    e. Course title: Spatial Analysis
    f. Grading Basis: A-F
    g. Implementation date: Fall 2014
    h. Cross listing: None
    i. Stacking: None
    j. Course Description: Theoretical foundation for, and practical applications of, the statistical analysis of spatial data. Topics include characterization of spatial data, techniques for visualizing, exploring and modeling spatial data distributed as point patterns, continuous data, area data, and spatial interaction data.
    k. Course attributes: None
    l. Course registration prerequisites/restrictions:
       Prerequisites: [GIS A301 and STAT A253] with a minimum grade of C.
    m. Course fees: Yes, standard CoEng course fee

III. Course Level Justification
    This course provides students with advanced modeling and analysis techniques for spatial data.

IV. Instructional Goals and Student Learning Outcomes:

    A. Instructional Goals:
       The instructor will:
       1. Explain techniques for the statistical analysis of spatial data
       2. Discuss practical applications using spatial and non-spatial statistics
       3. Discuss problems in spatial data sampling
B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
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</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Demonstrate the ability to identify appropriate analysis techniques for various geospatial data</td>
<td>Assignments, exams, project</td>
</tr>
<tr>
<td>B. Identify patterns in observed data</td>
<td>Assignments, exams, project</td>
</tr>
<tr>
<td>C. Formally describe patterns in observed data</td>
<td>Assignments, exams, project</td>
</tr>
<tr>
<td>D. Demonstrate the skills to assess patterns statistically</td>
<td>Assignments, exams, project</td>
</tr>
<tr>
<td>E. Demonstrate the ability to apply visualization techniques to explore geospatial data</td>
<td>Assignments, exams, project</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Issues in Analyzing Spatial Data
2. General Concepts in Spatial Data Analysis
3. Methods for Point Pattern Analysis
4. Methods for Spatially Continuous Data Analysis
5. Methods for Area Data Analysis
6. Methods for Spatial Interaction Data

VI. Suggested Text and Bibliography

A. Suggested Texts:


B. Bibliography:


Course Action Request  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College  
EN SOENGR

1b. Division  
choose one

1c. Department  
Geomatics

2. Course Prefix  
GIS

3. Course Number  
A367

4. Previous Course Prefix & Number  
N/A

5a. Credits/CEUs  
3

5b. Contact Hours  
(Lecture + Lab)  
(2+2)

6. Complete Course Title  
Image Analysis

   Abbreviated Title for Transcript (30 character)

   Image Analysis

7. Type of Course  
☒ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development

8. Type of Action:  
☐ Add  or  ☑ Change  or  ☐ Delete

If a change, mark appropriate boxes:

☐ Prefix  ☐ Credits  ☐ Title  ☐ Grading Basis  ☐ Course Description  ☐ Test Score Prerequisites  ☐ Automatic Restrictions  ☐ Class  ☐ Level  ☐ Other

☐ Course Number  ☐ Contact Hours  ☐ Repeat Status  ☐ Cross-Listed/Stacked  ☐ Course Prerequisites  ☐ Co-requisites  ☐ Registration Restrictions  ☐ General Education Requirement  ☐ College  ☐ Major  ☐ (please specify)

9. Repeat Status No  ☐ # of Repeats  ☐ Max Credits

10. Grading Basis  
☒ A-F  ☐ P/ NP  ☐ NG

11. Implementation Date  
semester/year

   From: Fall/2014  To: 99/9999

12. ☐ Cross Listed with  ☐ Stacked with

   Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

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Initiator Name (typed):  T.B. Quimby  
Initiator Signed Initials: _________  Date: ______________

13b. Coordination Email  
Date: 1/13/14  
submitted to Faculty Listserv:   (uaa-faculty@lists.aaa.alaska.edu)

13c. Coordination with Library Liaison  
Date: 1/13/14

14. General Education Requirement  
Mark appropriate box:

☐ Oral Communication  ☐ Written Communication  ☐ Quantitative Skills  ☐ Humanities  
☐ Fine Arts  ☐ Social Sciences  ☐ Natural Sciences  ☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

Principles of digital image processing, multi-temporal image analysis, change detection, and spatio-temporal geo-visualization..

16a. Course Prerequisite(s) (list prefix and number or test code and score)  
[ENGR A161 and STAT A253 and GIS A351] with a minimum grade of C.

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)

☐ College  ☐ Major  ☐ Class  ☐ Level

16d. Registration Restriction(s) (non-codable)

17. ☐ Mark if course has fees Std CoEng fee

18. ☐ Mark if course is a selected topic course

19. Justification for Action  
This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

Initiator (faculty only)  
Gennady Gienko

Initiator (TYPE NAME)  
T. B. Quimby

Initiator (faculty only) Date

Approved  ☐  Disapproved  ☐  Dean/Director of School/College  Date

Approved  ☐  Disapproved  ☐  Undergraduate/Graduate Academic  Date

Approved  ☐  Disapproved  ☐  Board Chair  Date

Approved  ☐  Disapproved  ☐  Provost or Designee  Date

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<td>Geographic Information Systems UC</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>Geographic Information Systems Minor</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>GIS A370</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
</tbody>
</table>
COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: December 19, 2013           Date Revised: January 12, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GIS
   c. Course number: A367
   d. Number of credits and contact hours: 3.0 (2+2)
   e. Course title: Image Analysis
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Principles of digital image processing, multi-temporal image analysis, change detection, and spatio-temporal geo-visualization.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Prerequisites: [ENGR A161 and STAT A253 and GIS A351] with a minimum grade of C.
   m. Course fees: Yes, standard CoEng course fee

III. Course Level Justification

The course is built upon basic concepts of Geomatics from previous 200-level courses. The course creates solid foundation for advanced work in area of spatio-temporal image analysis, change detection, and geo-visualization.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals:
   The instructor will:
   1. Provide an overview of digital image processing in Remote Sensing
   2. Explain basic theory of digital image formation
   3. Introduce fundamental methods of digital image processing
   4. Provide an overview of applications of image filtration in Remote Sensing
   5. Explain principles of morphological processing and geometric transforms
   6. Provide overview of multi-sensor data fusion
   7. Provide overview of multi-temporal data analysis
   8. Introduce change detection using visual image interpretation
9. Introduce change detection using image derived products and indices
10. Explain principles of geo-visualization of spatio-temporal changes

B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Demonstrate understanding of the theory of image processing in remote sensing</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>B. Implement basic elements of image processing using a programming language</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>C. Implement change detection using visual image interpretation</td>
<td>Homework assignments, projects, exams</td>
</tr>
<tr>
<td>D. Implement change detection using multispectral image classification</td>
<td>Homework assignments, projects, exams</td>
</tr>
<tr>
<td>E. Visualize changes in land use/land cover using GIS software</td>
<td>Homework assignments, projects, exams</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Introduction to Digital Image Processing
   1.1. Digital image characteristics
   1.2. Image formation
   1.3. Point operations in image processing
   1.4. Spatial filtering
   1.5. Image processing in frequency domain. Fourier transform
   1.6. Application of image filtration in Remote Sensing and GIS
   1.7. Morphological processing
   1.8. Geometric transformations

2. Change Detection
   2.1. Multi-temporal image analysis
   2.2. Multi-sensor image analysis
   2.3. Visual change detection
   2.4. Change detection using spectral differences and rationing
   2.5. Change detection using Normalized Difference Vegetation Index (NDVI)
   2.6. Change detection using Principal Component Analysis (PCA)
   2.7. Change detection using image classification

3. Geo-Visualization of Spatio-Temporal Changes
VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:


1a. School or College
EN SOENGR

1b. Division
choose one

1c. Department
Geomatics

2. Course Prefix
GIS

3. Course Number
A369

4. Previous Course Prefix & Number
N/A

5a. Credits/CEUs
3

5b. Contact Hours
(Lecture + Lab)
(2+2)

6. Complete Course Title
Land Information Systems and Legal Interpretations

7. Type of Course
☒ Academic
☐ Preparatory/Development
☐ Non-credit
☐ CEU
☐ Professional Development

8. Type of Action:
☐ Add
☐ Change
☒ Delete

9. Repeat Status No
☐ # of Repeats
☐ Max Credits

10. Grading Basis
☒ A-F
☐ P/np
☐ NG

11. Implementation Date
From: Fall/2014
To: 99/9999

12. Cross Listed with
☐ Stacked with

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
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<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographic Information Systems UC</td>
<td>N/A</td>
<td>T.B. Quimby</td>
</tr>
<tr>
<td>Geomatics BS</td>
<td>N/A</td>
<td>T.B. Quimby</td>
</tr>
<tr>
<td>Geomatics Minor</td>
<td>N/A</td>
<td>T.B. Quimby</td>
</tr>
</tbody>
</table>

Initiator Name (typed): T.B. Quimby
Initiator Signed Initials: _________
Date:________________

13b. Coordination Email
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

Date: 1/13/14

13c. Coordination with Library Liaison
Date: 1/13/14

14. General Education Requirement
Mark appropriate box:
☐ Oral Communication
☐ Written Communication
☐ Quantitative Skills
☐ Humanities
☐ Fine Arts
☐ Social Sciences
☐ Natural Sciences
☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)
☐ College
☐ Major
☐ Class
☐ Level

17. Mark if course has fees

18. Mark if course is a selected topic course

19. Justification for Action
This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator (faculty only)
Gennady Gienko
Initiator (TYPE NAME)

Approved
Disapproved

Dean/Director of School/College
Date

Disapproved
Approved
Undergraduate/Graduate Academic
Date

Disapproved
Approved
Board Chair
Date

Disapproved
Approved
Provost or Designee
Date
Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College  
EN SOENGR

1b. Division  
choose one

1c. Department  
Geomatics

2. Course Prefix  
GIS

3. Course Number  
A370

4. Previous Course Prefix & Number  
N/A

5a. Credits/CEUs  
3

5b. Contact Hours  
(Lecture + Lab) (2+2)

6. Complete Course Title  
GIS and Remote Sensing for Natural Resources
GIS for Natural Res

7. Type of Course  
☒ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development

8. Type of Action:  
☐ Add  ☒ Change  ☐ Delete

If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Automatic Restrictions
- Other

- Course Number
- Contact Hours
- Repeat Status
- Cross-Listed/Stacked
- Course Prerequisites
- Co-requisites
- Registration Restrictions
- General Education Requirement

9. Repeat Status No  # of Repeats  Max Credits

10. Grading Basis  
☒ A-F  ☐ P/NP  ☐ NG

11. Implementation Date  
semester/year
From: Fall/2014  To: 99/9999

12. ☐ Cross Listed with  
Stacked with  Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

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<th>Chair/Coordinator Contacted</th>
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<tr>
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</tr>
<tr>
<td>2.</td>
<td></td>
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<tr>
<td>3.</td>
<td></td>
</tr>
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</table>

Initiator Name (typed): T.B. Quimby  Initiator Signed Initials: _______  Date: __________

13b. Coordination Email  Date: 1/13/14
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison  Date: 1/13/14

14. General Education Requirement
Mark appropriate box:
☐ Oral Communication  ☐ Written Communication  ☐ Quantitative Skills  ☐ Humanities
☐ Fine Arts  ☐ Social Sciences  ☐ Natural Sciences  ☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)
Introduces the principles and terminology of natural resources, landscape ecology and ecosystem management and develops students' analytical skills using spatial technologies consisting of geographic information systems (GIS), remote sensing, and global positioning systems (GPS) as tools to gain knowledge of landscape form and function.

16a. Course Prerequisite(s) (list prefix and number or test code and score)
GIS A351 with a minimum grade of C.

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)
☐ College  ☐ Major  ☐ Class  ☐ Level

16d. Registration Restriction(s) (non-codable)

17. ☒ Mark if course has fees Std CoEng fee

18. ☐ Mark if course is a selected topic course

19. Justification for Action
This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator (faculty only)
Gennady Gienko  Initiator (TYPE NAME)

Initiator Date  Dean/Director of School/College Date
Approved  Disapproved

Department Chair Date
Approved  Disapproved

College/School Curriculum Committee Chair Date
Approved  Disapproved

Undergraduate/Graduate Academic Date
Approved  Disapproved

Board Chair Date
Approved  Disapproved

Provost or Designee Date
Approved  Disapproved
## Box 13a

<table>
<thead>
<tr>
<th>Course Being Changed:</th>
<th>GIS A370</th>
<th>GIS and Remote Sensing for Natural Resources</th>
</tr>
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<tbody>
<tr>
<td><strong>Date of Notification</strong></td>
<td></td>
<td><strong>Chair/Coordinator Contacted (not listerve)</strong></td>
</tr>
<tr>
<td>Environmental Sciences Minor</td>
<td>1/14/14</td>
<td>Dorn Van Dommelen</td>
</tr>
<tr>
<td>Natural Sciences BS</td>
<td>1/14/14</td>
<td>Khrys Duddleston</td>
</tr>
<tr>
<td>Geomatics BS</td>
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<td>Bart Quimby</td>
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<tr>
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<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
</tbody>
</table>
COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. Date Initiated: January 10, 2014  Date Revised: January 14, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GIS
   c. Course number: A370
   d. Number of credits and contact hours: 3.0 (2+2)
   i. Course title: GIS and Remote Sensing for Natural Resources
   e. Grading Basis: A-F
   f. Implementation date: Fall 2014
   g. Cross listing: None
   h. Stacking: None
   i. Course Description: Introduces the principles and terminology of natural resources, landscape ecology and ecosystem management and develops students’ analytical skills using spatial technologies consisting of geographic information systems (GIS), remote sensing, and global positioning systems (GPS) as tools to gain knowledge of landscape form and function.
   j. Course attributes: None
   k. Course registration prerequisites/restrictions:
      Prerequisite: GIS A351 with a minimum grade of C.
   l. Course fees: Yes, standard CoEng course fee

III. Course Level Justification

The course is built upon basic concepts of GIS, Remote Sensing and Image Processing from previous 100 and 200-level courses. The course creates solid foundation for applying GIS, image analysis, and GPS for Natural Resources.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals:

The instructor will:

1. Define natural resources, and describe landscape functions and processes
2. Define and give examples of issues for natural resource managers
3. Describe and lead students through creation of a GIS database for a study area
4. Describe issues of scale and the quality/accuracy of spatial data
5. Explain interactions of electromagnetic radiation with the landscape
6. Describe attributes of soils, vegetation and animals that can be quantified using GIS or image analysis
7. Illustrate techniques of GIS analysis for natural resource issues
8. Illustrate methods and techniques to analyze remotely sensed images for use in natural resource management

B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Demonstrate understanding of natural resources and NRM issues</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>B. Create data layers dealing with issues of scale and accuracy</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>C. Implement GIS analytical techniques</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>D. Conduct various image analysis and classification techniques</td>
<td>Homework assignments, exams</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Introduction
   1.1. Natural resources, renewable versus non-renewable
   1.2. Fundamentals of landscape ecology
   1.3. GIS and remote sensing technology

2. Natural Resources and Humans
   2.1. Ecosystem functions
   2.2. Fundamentals of biogeography
   2.3. Data acquisition, scale and quality issues

3. Natural Resource Assessment
   3.1. Patches, corridors and the matrix
   3.2. Flows between Landscape Elements
   3.3. Manmade and Natural Disturbances
   3.4. Soils and Minerals

4. Modeling the surface of the earth
   4.1. Measuring elevation (survey, LIDAR, RADAR)
   4.2. Types of models
       4.2.1. Digital elevation models (DEM)
       4.2.2. Digital surface models (DSM)
       4.2.3. Triangulated irregular networks (TIN)
5. Remote Sensing Platforms
   5.1. Electromagnetic spectrum
   5.2. Scale and resolution
   5.3. Active versus passive sensors
   5.4. Earth observation satellites
   5.5. Earth resource satellites
   5.6. Thermal sensors
   5.7. RADAR sensors
   5.8. LiDAR sensors
   5.9. Aerial photography
   5.10. Plot photography

6. Orthorectification of Aerial Photography
   6.1. Introduction
   6.2. Internal versus external distortion
   6.3. Techniques for reducing/removing distortion

7. Analytical Techniques for Natural Resource Management
   7.1. Watershed analysis
     7.1.1. Delineation of watershed
     7.1.2. Use of Boolean masks to extract data
     7.1.3. Predicting flow using compactness ratio
     7.1.4. Analyzing channel characteristics
     7.1.5. Cross-section analysis
   7.2. Vegetative indices (VI)
     7.2.1. Overview and electromagnetic spectrum background
     7.2.2. Slope-based VI
     7.2.3. Distance-based VI
     7.2.4. Orthogonal transformation VI
   7.3. Animal use and movement
     7.3.1. Physiological drives
     7.3.2. Geostatistical point analysis
     7.3.3. Kernel density maps
     7.3.4. Resource modeling
   7.4. Time change analysis
     7.4.1. Overview (Trend, Seasonality, Noise)
     7.4.2. Pairwise comparisons
     7.4.3. Time series analysis
     7.4.4. Predictive modeling and assessment

8. Multispectral Image Classification
   8.1. Principles of image classification
   8.2. Supervised and unsupervised classifications
   8.3. Accuracy assessment
9. The Role of GIS in Decision Making
   9.1. Multi-Criteria Evaluation (MCE)
   9.2. Multi-Objective Land Allocation (MOLA)

VI. Suggested Text and Bibliography

A. Suggested Text:

B. Bibliography:
   Jones, H.G. and R.A. Vaughan, Remote Sensing of Vegetation: Principles,

   Lillesand, T., R.W. Kiefer, and J. Chipman, Remote Sensing and Image
1a. School or College  
EN SOENGR  

1b. Division  
choose one  

1c. Department  
Geomatics  

2. Course Prefix  
GIS  

3. Course Number  
A371  

4. Previous Course Prefix & Number  
N/A  

5a. Credits/CEUs  
3  

5b. Contact Hours  
(Lecture + Lab)  
(1+4)  

6. Complete Course Title  
GIS Applications I  

Abbreviated Title for Transcript (30 character)  

7. Type of Course  
☑ Academic  
☐ Preparatory/Development  
☐ Non-credit  
☐ CEU  
☐ Professional Development  

8. Type of Action:  
☐ Add  or  ☑ Change  or  ☐ Delete  

If a change, mark appropriate boxes:  
☐ Prefix  
☐ Credits  
☐ Title  
☐ Grading Basis  
☐ Course Description  
☐ Test Score Prerequisites  
☐ Automatic Restrictions  
☐ Class  
☐ Level  
☐ College  
☐ Major  
☐ Other  
☐ Course Number  
☐ Contact Hours  
☐ Repeat Status  
☐ Cross-Listed/Stacked  
☐ Co-requisites  
☐ Registration Restrictions  
☐ General Education Requirement  

9. Repeat Status No  
# of Repeats  
Max Credits  

10. Grading Basis  
☒ A-F  
☐ P/NP  
☐ NG  

11. Implementation Date  
semester/year  
From: Fall/2014  
To: 99/9999  

12. ☐ Cross Listed with  
☐ Stacked with  

Cross-Listed Coordination Signature  

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.  

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.  

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<td>N/A</td>
<td>T.B. Quimby</td>
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<tr>
<td>Geomatics BS</td>
<td>N/A</td>
<td>T.B. Quimby</td>
</tr>
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Initiator Name (typed):  
T.B. Quimby  
Initiator Signed Initials:  
Date:  

13b. Coordination Email  
Date: 1/13/14  
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)  

13c. Coordination with Library Liaison  
Date: 1/13/14  

14. General Education Requirement  
Mark appropriate box:  
☐ Oral Communication  
☐ Written Communication  
☐ Quantitative Skills  
☐ Humanities  
☐ Fine Arts  
☐ Social Sciences  
☐ Natural Sciences  
☐ Integrative Capstone  

15. Course Description (suggested length 20 to 50 words)  

16a. Course Prerequisite(s) (list prefix and number or test code and score)  

16b. Co-requisite(s) (concurrent enrollment required)  

16c. Automatic Restriction(s)  

16d. Registration Restriction(s) (non-codable)  

17. ☐ Mark if course has fees  

18. ☐ Mark if course is a selected topic course  

19. Justification for Action  
This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.  

Initiator (faculty only)  
Gennady Gienko  
Initiator (TYPE NAME)  

Initiator Approved  
Date  

Dean/Director of School/College  
Disapproved  
Date  

Undergraduate/Graduate Academic  
Approved  
Date  

Board Chair  
Disapproved  
Date  

Provost or Designee  
Approved  
Date  

Disapproved  
Department Chair  
Date  

Approved  
College/School Curriculum Committee Chair  
Date  

Disapproved  
Provost or Designee  
Date  

340
Course Action Request  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>EN SOENGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1b. Division</td>
<td>choose one</td>
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<tr>
<td>1c. Department</td>
<td>Geomatics</td>
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<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>GIS</th>
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<tr>
<td>3. Course Number</td>
<td>A433</td>
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<tr>
<td>4. Previous Course Prefix &amp; Number</td>
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<td>5a. Credits/CEUs</td>
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</tr>
<tr>
<td>5b. Contact Hours</td>
<td>(Lecture + Lab) (2+2)</td>
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6. Complete Course Title  
Coastal Mapping  
Abbreviated Title for Transcript (30 character)  
Coastal Mapping

7. Type of Course  
☑ Academic  
☐ Preparatory/Development  
☐ Non-credit  
☐ CEU  
☐ Professional Development

8. Type of Action:  
☐ Add  
☑ Change  
☐ Delete

If a change, mark appropriate boxes:

- ☐ Prefix  
- ☐ Credits  
- ☐ Title  
- ☐ Grading Basis  
- ☑ Course Description  
- ☐ Test Score Prerequisites  
- ☐ Automatic Restrictions  
- ☐ Class  
- ☐ Level  
- ☐ College  
- ☐ Major  
- ☐ Other  

9. Repeat Status No  
☐ # of Repeats  
☐ Max Credits

10. Grading Basis  
☐ A-F  
☐ P/NP  
☐ NG

11. Implementation Date  
semester/year  
From: Fall/2014  
To: 99/9999

12. ☐ Cross Listed with  
☐ Stacked with  
Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

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<td>1. See attached checksheet</td>
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<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
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</table>

Initiator Name (typed): T.B. Quimby  
Initiator Signed Initials: _________  
Date: ________________

13b. Coordination Email  
Date: 1/13/14  
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison  
Date: 1/13/14

14. General Education Requirement  
Mark appropriate box:  
☐ Oral Communication  
☐ Written Communication  
☐ Quantitative Skills  
☐ Humanities  
☐ Fine Arts  
☐ Social Sciences  
☐ Natural Sciences  
☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)  
Principles of coastal mapping. Spatial reasoning and information applications to coastal mapping projects.

16a. Course Prerequisite(s) (list prefix and number or test code and score)  
GIS A366 with a minimum grade of C.

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)  
☐ College  
☐ Major  
☐ Class  
☐ Level

17. ☑ Mark if course has fees Std CoEng fee  
18. ☐ Mark if course is a selected topic course

19. Justification for Action  
This course is being updated as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator (faculty only)  
Gennady Gienko  
Initiator (TYPE NAME)

<table>
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<th>☑ Approved</th>
<th>Dean/Director of School/College</th>
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<td>Department Chair</td>
<td>☐ Disapproved</td>
<td>Undergraduate/Graduate Academic</td>
<td>Date</td>
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<tr>
<td>☑ Approved</td>
<td>College/School Curriculum Committee Chair</td>
<td>Date</td>
<td>Provost or Designee</td>
<td>Date</td>
</tr>
<tr>
<td>☐ Disapproved</td>
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</table>
## Box 13a

<table>
<thead>
<tr>
<th>Course Being Changed:</th>
<th>GIS A433 Coastal Mapping</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Impacted Program or Course</strong></td>
<td><strong>Date of Notification</strong></td>
<td><strong>Chair/Coordinator Contacted</strong> (not listerve)</td>
</tr>
<tr>
<td>Natural Sciences BS</td>
<td>1/13/14</td>
<td>Khrys Duddleston</td>
</tr>
<tr>
<td>Geomatics BS</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>Geographic Information Systems UC</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>Geographic Information Systems Minor</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
</tbody>
</table>
COURSE CONTENT GUIDE

University of Alaska Anchorage, College of Engineering, Geomatics Dept.

I. **Date Initiated:** December 19, 2013  **Date Revised:** January 12, 2014

II. **Course Information**
   a. College: EN
   b. Course prefix: GIS
   c. Course number: A433
   d. Number of credits and contact hours: 3.0 (2+2)
   e. Course title: Coastal Mapping
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Principles of coastal mapping. Spatial reasoning and information applications to coastal mapping projects.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Prerequisite: GIS A366 with a minimum grade of C.
   m. Course fees: Yes, standard CoEng course fee

III. **Course Level Justification**

The course is built upon basic concepts of Geomatics from previous 300-level courses. The course creates solid foundation for integration of geomatics methods for coastal mapping.

IV. **Instructional Goals and Student Learning Outcomes:**

A. **Instructional Goals:**
   The instructor will:
   1. Provide an overview of coastal processes and changes
   2. Introduce modern technologies for coastal data collection and mapping
   3. Discuss public databases of coastal zone spatial information
   4. Provide an overview of multi-temporal and multi-sensor data analysis for coastal mapping
   5. Explain how to analyze data layers over time for change detection in the coastal zone
   6. Explain and demonstrate using various GIS tools for coastal analysis and mapping
B. Student Learning Outcomes & Assessment:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Demonstrate understanding of the concepts, challenges and applications in coastal zone mapping</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>B. Access and use public databases of coastal zone spatial information</td>
<td>Homework assignments, exams</td>
</tr>
<tr>
<td>C. Use basic GIS tools for coastal data analysis</td>
<td>Homework assignments, projects, exams</td>
</tr>
<tr>
<td>D. Implement change detection in coastal areas using various geospatial data</td>
<td>Homework assignments, projects, exams</td>
</tr>
<tr>
<td>E. Discuss accuracy and uncertainty in data and derived products</td>
<td>Homework assignments, projects, exams</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Introduction: Challenges of the Coastal Zone

2. Physical Ocean
   2.1. Salt water
       2.1.1. Hydrologic cycle
       2.1.2. Salinity
       2.1.3. Geographic characteristics of sea water
       2.1.4. Sea level and sea level change
   2.2. Marine geomorphology
       2.2.1. Sediments and sedimentation
       2.2.2. Long-shore drift
       2.2.3. Nearshore processes
       2.2.4. Island formation
       2.2.5. Oceanic trenches
   2.3. Water movement
       2.3.1. Currents
       2.3.2. Tides
       2.3.3. Waves
       2.3.4. Tsunamis
       2.3.5. Upwelling and downwelling
       2.3.6. Water movement, weather and climate
       2.3.7. El Niño and La Niña
   2.4. Ocean environments and biodiversity
       2.4.1. Oceanic ecosystems, their functioning and biota
       2.4.2. Island ecosystems
2.4.3. Benthic ecosystems
2.4.4. Sea ice ecosystems
2.4.5. Conservation and management of oceanic ecosystems and biodiversity

3. Sensing and Mapping the Marine Environment
   3.1. Maritime measurement
   3.2. Measurement of distance and location at sea
   3.3. Field methods of data collection
   3.4. Problems in data collection at sea
   3.5. Hydrographic surveying
   3.6. Nautical charts vs. topographic maps
   3.7. Aerial photography and the ocean and coastal zone
   3.8. Remote sensing and the ocean and coastal zone

4. GIS Data for Coastal Mapping Applications
   4.1. Datums, horizontal and vertical
   4.2. Bathymetry
   4.3. Topography
   4.4. Infrastructure
   4.5. Public databases
   4.6. Integration of ocean and coastal GIS data

5. GIS and Remote Sensing techniques for Coastal Mapping
   5.1. GIS mapping of the ocean and the coastal zone
   5.2. Surface representations and hydrography
   5.3. Surface modeling and analysis
   5.4. Watershed analysis
   5.5. Water levels, waves, currents and sea level rise
   5.6. Coastal erosion
   5.7. Mapping inundation
   5.8. Change detection
   5.9. Joining datasets at the shoreline
   5.10. Accuracy and uncertainty

6. Practical Applications
   6.1. Viewing significant maritime processes, biota, uses, and issues in Southcentral Alaska
   6.2. Field exercises with nautical charts
   6.3. Cross-sections and surface models
   6.4. Building a coastal map
   6.5. Map coastal inundation using GIS
   6.6. Monitoring changes in coastal area
   6.7. Designing and engineering mapping products
   6.8. Data collection and design supporting a coastal engineering project
   6.9. Permit map for National Environmental Policy Act (NEPA) compliance
VI. Suggested Text and Bibliography

A. Suggested Text:


B. Bibliography:


<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>EN SOENGR</th>
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<tbody>
<tr>
<td>1b. Division</td>
<td>choose one</td>
</tr>
<tr>
<td>1c. Department</td>
<td>Geomatics</td>
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<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>GIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Course Number</td>
<td>A458</td>
</tr>
<tr>
<td>4. Previous Course Prefix &amp; Number</td>
<td>N/A</td>
</tr>
<tr>
<td>5a. Credits/CEUs</td>
<td>3</td>
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<tr>
<td>5b. Contact Hours</td>
<td>(Lecture + Lab) (2+2)</td>
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<table>
<thead>
<tr>
<th>6. Complete Course Title</th>
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<tbody>
<tr>
<td>Spatial Data Management</td>
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<td>Spatial Data Management</td>
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<th>7. Type of Course</th>
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<td>Preparatory/Development</td>
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<td>Professional Development</td>
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<tr>
<th>10. Grading Basis</th>
<th>A-F</th>
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<td>P/NP</td>
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<td>NG</td>
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<tr>
<th>11. Implementation Date</th>
<th>semester/year</th>
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<td>From: Fall/2014</td>
<td>To: 99/9999</td>
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<th>12. Cross Listed with</th>
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<tbody>
<tr>
<td>Stacked</td>
</tr>
<tr>
<td>Cross-Listed Coordination Signature</td>
</tr>
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13a. Impacted Courses or Programs: List any programs or college requirements that require this course.
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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<td>3.</td>
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<table>
<thead>
<tr>
<th>Initiator Name (typed):</th>
<th>T.B. Quimby</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiator Signed Initials:</td>
<td>___________</td>
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<tr>
<td>Date:</td>
<td>___________</td>
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<table>
<thead>
<tr>
<th>13b. Coordination Email</th>
<th>Date: 1/13/14</th>
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</thead>
<tbody>
<tr>
<td>submitted to Faculty Listserv:</td>
<td>(<a href="mailto:uaa-faculty@lists.uaa.alaska.edu">uaa-faculty@lists.uaa.alaska.edu</a>)</td>
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<th>13c. Coordination with Library Liaison</th>
<th>Date: 1/13/14</th>
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<th>14. General Education Requirement</th>
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<td>Mark appropriate box:</td>
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<tr>
<td>Oral Communication</td>
</tr>
<tr>
<td>Written Communication</td>
</tr>
<tr>
<td>Quantitative Skills</td>
</tr>
<tr>
<td>Humanities</td>
</tr>
<tr>
<td>Fine Arts</td>
</tr>
<tr>
<td>Social Sciences</td>
</tr>
<tr>
<td>Natural Sciences</td>
</tr>
<tr>
<td>Integrative Capstone</td>
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<table>
<thead>
<tr>
<th>15. Course Description (suggested length 20 to 50 words)</th>
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<tbody>
<tr>
<td>Geospatial database technology underlying geographic information systems. Topics include spatial data models, querying, implementation of relational and spatial operators, and system architecture for geospatial databases.</td>
</tr>
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<table>
<thead>
<tr>
<th>16a. Course Prerequisite(s)</th>
<th>(list prefix and number or test code and score)</th>
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<tbody>
<tr>
<td>GIS A366 with a minimum grade of C.</td>
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<table>
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<tr>
<th>16b. Co-requisite(s)</th>
<th>(concurrent enrollment required)</th>
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<table>
<thead>
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<th>16c. Automatic Restriction(s)</th>
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<tr>
<td>College</td>
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<table>
<thead>
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<th>16d. Registration Restriction(s)</th>
<th>(non-codable)</th>
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<table>
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<th>17.</th>
<th>Mark if course has fees Std CoEng fee</th>
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<table>
<thead>
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<th>18.</th>
<th>Mark if course is a selected topic course</th>
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</table>

<table>
<thead>
<tr>
<th>19. Justification for Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>This course is being added as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Initiator (faculty only)</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caixia Wang</td>
<td></td>
</tr>
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<table>
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<th>Initiator (TYPE NAME)</th>
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<tbody>
<tr>
<td>Approved</td>
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<tr>
<td>Disapproved</td>
</tr>
<tr>
<td>Department Chair</td>
</tr>
<tr>
<td>Approved</td>
</tr>
<tr>
<td>Disapproved</td>
</tr>
<tr>
<td>Undergraduate/Graduate Academic</td>
</tr>
<tr>
<td>Board Chair</td>
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<tr>
<td>Disapproved</td>
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<tr>
<td>Provost or Designee</td>
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347
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<thead>
<tr>
<th><strong>Impacted Program or Course</strong></th>
<th><strong>Date of Notification</strong></th>
<th><strong>Chair/Coordinator Contacted</strong></th>
</tr>
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<tbody>
<tr>
<td>Natural Sciences BS</td>
<td>1/13/14</td>
<td>Khrys Duddleston</td>
</tr>
<tr>
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<td>1/13/14</td>
<td>Bart Quimby</td>
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</tr>
<tr>
<td>Geographic Information Systems Minor</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
</tbody>
</table>
I. Date Initiated: December 23, 2013   Date Revised: January 12, 2014

II. Course Information
   a. College: EN
   b. Course prefix: GIS
   c. Course number: A458
   d. Number of credits and contact hours: 3.0 (2+2)
   e. Course title: Spatial Data Management
   f. Grading Basis: A-F
   g. Implementation date: Fall 2014
   h. Cross listing: None
   i. Stacking: None
   j. Course Description: Geospatial database technology underlying geographic information systems. Topics include spatial data models, querying, implementation of relational and spatial operators, and system architecture for geospatial databases.
   k. Course attributes: None
   l. Course registration prerequisites/restrictions:
      Prerequisite: GIS A366 with a minimum grade of C.
   m. Course fees: Yes, standard CoEng course fee

III. Course Level Justification

This course provides students with important concepts of database application development. It develops an understanding of mechanics of a database management system.

IV. Instructional Goals and Student Learning Outcomes:

A. Instructional Goals.
   The instructor will:
   1. Discuss databases in general and the relational database model
   2. Demonstrate and explain querying
   3. Explain characterization of spatial database and its spatial operators
   4. Demonstrate and explain how to design spatial databases
B. Student Learning Outcomes & Assessments:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Typical Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon successful completion of this course a student will be able to:</td>
<td></td>
</tr>
<tr>
<td>A. Design a spatial database</td>
<td>Assignments, exams, project</td>
</tr>
<tr>
<td>B. Query spatial databases</td>
<td>Assignments, exams, project</td>
</tr>
<tr>
<td>C. Develop spatial operators</td>
<td>Assignments, exams, project</td>
</tr>
</tbody>
</table>

V. Typical Course Outline

1. Introduction to Databases
2. The Relational Model
3. Structured Query Language (SQL)
4. ER Modeling
5. Spatial Databases
6. Spatial Operators
7. Network Model
8. Indexes and Access Methods
9. Query Processing

VI. Suggested Text and Bibliography

A. Suggested Texts:


B. Bibliography:


1a. School or College
EN SOENGR

1b. Division
choose one

1c. Department
Geomatics

2. Course Prefix
GIS

3. Course Number
A460

4. Previous Course Prefix & Number
N/A

5a. Credits/CEUs
3

5b. Contact Hours
(Lecture + Lab)
(0+9)

6. Complete Course Title
GIS Senior Project

7. Type of Course
☒ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development

8. Type of Action:
☐ Add  ☐ Change  ☑ Delete

If a change, mark appropriate boxes:
☐ Prefix  ☐ Course Number  ☐ Contact Hours
☐ Credits  ☐ Repeat Status
☐ Title  ☐ Cross-Listed/Stacked
☐ Grading Basis  ☐ Course Prerequisites
☐ Course Description  ☐ Co-requisites
☐ Test Score Prerequisites  ☐ Registration Restrictions
☐ Automatic Restrictions  ☐ General Education Requirement
☐ Class  ☐ Level
☐ College  ☐ Major
☐ Other

9. Repeat Status


10. Grading Basis
☒ A-F  ☐ P/NP  ☐ NG

11. Implementation Date
From: Fall/2014 To: 99/9999

12. ☐ Cross Listed with


13a. Impacted Courses or Programs:
List any programs or college requirements that require this course.
Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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<tbody>
<tr>
<td>1. None</td>
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<tr>
<td>2.</td>
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<tr>
<td>3.</td>
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</table>

Initiator Name (typed): T.B. Quimby
Initiator Signed Initials: _________ Date: __________

13b. Coordination Email
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
Date: 1/13/14

14. General Education Requirement
Mark appropriate box:
☐ Oral Communication  ☐ Written Communication  ☐ Quantitative Skills  ☐ Humanities
☐ Fine Arts  ☐ Social Sciences  ☐ Natural Sciences  ☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)
☐ College  ☐ Major  ☐ Class  ☐ Level

16d. Registration Restriction(s) (non-codable)

17. ☐ Mark if course has fees

18. ☐ Mark if course is a selected topic course

19. Justification for Action
This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

Initiator (faculty only)
Gennady Gienko
Initiator (TYPE NAME)

☑ Approved  ☐ Disapproved

Dean/Director of School/College
Date

☑ Approved  ☐ Disapproved

Undergraduate/Graduate Academic
Date

☑ Approved  ☐ Disapproved

Board Chair
Date

☑ Approved  ☐ Disapproved

Provost or Designee
Date
1a. School or College  
EN SOENGR

1b. Division  
choose one

1c. Department  
Geomatics

2. Course Prefix  
GIS

3. Course Number  
A468

4. Previous Course Prefix & Number  
N/A

5a. Credits/CEUs  
3

5b. Contact Hours  
(Lecture + Lab)  
(2+2)

6. Complete Course Title  
Integration of Geomatics Technologies

7. Type of Course  
☒ Academic  ☐ Preparatory/Development  ☐ Non-credit  ☐ CEU  ☐ Professional Development

8. Type of Action:  
☐ Add  ☐ Change  ☒ Delete

If a change, mark appropriate boxes:
☐ Prefix  ☐ Course Number  ☐ Contact Hours  ☐ Repeat Status  ☐ Cross-Listed/Stacked  ☐ Co-requisites  ☐ Registration Restrictions  ☐ General Education Requirement
☐ Grading Basis  ☐ Credits  ☐ Title  ☒ Repeat Status  ☐ Cross-Listed/Stacked  ☐ Course Prerequisites  ☐ Registration Restrictions  ☐ General Education Requirement
☐ Course Description  ☐ Credits  ☐ Title  ☐ Repeat Status  ☐ Course Prerequisites  ☐ Registration Restrictions  ☐ General Education Requirement
☐ Test Score Prerequisites  ☐ Credits  ☐ Title  ☐ Repeat Status  ☐ Course Prerequisites  ☐ Registration Restrictions  ☐ General Education Requirement
☐ Automatic Restrictions  ☐ Credits  ☐ Title  ☐ Repeat Status  ☐ Course Prerequisites  ☐ Registration Restrictions  ☐ General Education Requirement
☐ Title  ☐ Credits  ☐ Repeat Status  ☐ Course Prerequisites  ☐ Registration Restrictions  ☐ General Education Requirement
☐ Other  ☐ Credits  ☐ Repeat Status  ☐ Course Prerequisites  ☐ Registration Restrictions  ☐ General Education Requirement

9. Repeat Status No  # of Repeats  Max Credits

10. Grading Basis  
☒ A-F  ☐ P/NP  ☐ NG

11. Implementation Date  
semester/year

From: Fall/2014  To: 99/9999

12. ☐ Cross Listed  ☒ Stacked

Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

<table>
<thead>
<tr>
<th>Impact Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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</thead>
<tbody>
<tr>
<td>1. See attached checksheet</td>
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<tr>
<td>2.</td>
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</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
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</table>

Initiator Name (typed):  
T.B. Quimby

Initiator Signed Initials:  
__________

Date:  
__________

13b. Coordination Email  
Date: 1/13/14

submitted to Faculty Listserv:  
(uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison  
Date: 1/13/14

14. General Education Requirement  
Mark appropriate box:
☐ Oral Communication  ☐ Written Communication  ☐ Quantitative Skills  ☐ Humanities
☐ Fine Arts  ☐ Social Sciences  ☐ Natural Sciences  ☐ Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)
☐ College  ☐ Major  ☐ Class  ☐ Level

16d. Registration Restriction(s) (non-codable)

17. ☐ Mark if course has fees

18. ☐ Mark if course is a selected topic course

19. Justification for Action

This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program’s constituents.

Initiator (faculty only)

Gennady Gienko

Initiator (TYPE NAME)

☑ Approved  ☐ Disapproved

Dean/Director of School/College  
Date

☑ Approved  ☐ Disapproved

Undergraduate/Graduate Academic  
Date

☑ Approved  ☐ Disapproved

Board Chair  
Date

☑ Approved  ☐ Disapproved

Provost or Designee  
Date

☑ Approved  ☐ Disapproved

Department Chair  
Date

☑ Approved  ☐ Disapproved

College/School Curriculum Committee Chair  
Date

☑ Approved  ☐ Disapproved
## Course Being Changed: GIS A468 Integration of Geomatics Technologies

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<td>Khrys Duddleston</td>
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<tr>
<td>Geomatics BS</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
</tr>
<tr>
<td>Geographic Information Systems UC</td>
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<tr>
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<td>Bart Quimby</td>
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### Course Action Request

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course**

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<th>1c. Department</th>
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6. **Complete Course Title**

GIS Applications II

**Abbreviated Title for Transcript (30 character)**

7. **Type of Course**

- [x] Academic
- [ ] Preparatory/Development
- [ ] Non-credit
- [ ] CEU
- [ ] Professional Development

8. **Type of Action:**

- [ ] Add
- [ ] Change
- [x] Delete

If a change, mark appropriate boxes:

- [ ] Prefix
- [ ] Credits
- [ ] Title
- [ ] Grading Basis
- [ ] Course Description
- [ ] Test Score Prerequisites
- [ ] Automatic Restrictions
- [ ] Class
- [ ] Level
- [ ] College
- [ ] Major
- [ ] Other (please specify)

9. **Repeat Status No**

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10. **Grading Basis**

- [x] A-F
- [ ] P/NP
- [ ] NG

11. **Implementation Date**

12. **Cross Listed with**

- [ ] Stacked with

13a. **Impacted Courses or Programs:** List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. [A template is available at www.uaa.alaska.edu/governance.](http://www.uaa.alaska.edu/governance)

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<td>T.B. Quimby</td>
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<td>3.</td>
<td></td>
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</table>

**Initiator Name (typed):** T.B. Quimby

**Initiator Signed Initials:** _________

**Date:**

13b. **Coordination Email**

[submit to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)](mailto:uaa-faculty@lists.uaa.alaska.edu)

Date: 1/13/14

13c. **Coordination with Library Liaison**

Date: 1/13/14

14. **General Education Requirement**

Mark appropriate box:

- [ ] Oral Communication
- [ ] Written Communication
- [ ] Quantitative Skills
- [ ] Humanities
- [ ] Fine Arts
- [ ] Social Sciences
- [ ] Natural Sciences
- [ ] Integrative Capstone

15. **Course Description** *(suggested length 20 to 50 words)*

16a. **Course Prerequisite(s)** *(list prefix and number or test code and score)*

16b. **Co-requisite(s)** *(concurrent enrollment required)*

16c. **Automatic Restriction(s)**

- [ ] College
- [ ] Major
- [ ] Class
- [ ] Level

16d. **Registration Restriction(s)** *(non-codable)*

17. **Mark if course has fees**

18. **Mark if course is a selected topic course**

19. **Justification for Action**

This course is being deleted as part of a redesign of all the Geomatics department curriculum. The redesign is driven by a need to streamline the program and to meet the needs of the program's constituents.

**Initiator (faculty only) Gennady Gienko**

**Initiator (TYPE NAME)***

**Date:**

**[Approved]**

**[Disapproved]**

Dean/Director of School/College

Date

**[Approved]**

**[Disapproved]**

Undergraduate/Graduate Academic

Date

**[Approved]**

**[Disapproved]**

Board Chair

Date

**[Approved]**

**[Disapproved]**

Provost or Designee

Date

355
1a. School or College  
EN SOENGR

1b. Division  
choose one

1c. Department  
Geomatics

2. Course Prefix  
GIS

3. Course Number  
A490

4. Previous Course Prefix & Number  
N/A

5a. Credits/CEUs  
1-6

5b. Contact Hours (Lecture + Lab)  
(0-6+0-12)

6. Complete Course Title  
Selected Advanced Topics in GIS

Abbreviated Title for Transcript (30 character)

7. Type of Course  
[X] Academic  
☐ Preparatory/Development  
☐ Non-credit  
☐ CEU  
☐ Professional Development

8. Type of Action:  
☐ Add  or  ☐ Change  or  ☒ Delete

If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Other
- Class
- Level
- College
- Major
- Other (please specify)

9. Repeat Status No  
# of Repeats  
Max Credits

10. Grading Basis  
[X] A-F  
☐ P/NP  
☐ NG

11. Implementation Date  
semester/year

From: Fall/2014  
To: 99/9999

12. ☑ Cross Listed with  
[ ] Stacked with

Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

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<td>T.B. Quimby</td>
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<tr>
<td>Geographic Information Systems Minor</td>
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Initiator Name (typed):  
T.B. Quimby

Initiator Signed Initials:  
________________

Date:  
________________

13b. Coordination Email  
Date: 1/13/14

submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison  
Date: 1/13/14

14. General Education Requirement  
Mark appropriate box:

- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

16a. Course Prerequisite(s) (list prefix and number or test code and score)  
16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)  
16d. Registration Restriction(s) (non-codable)

- College
- Major
- Class
- Level

17. ☑ Mark if course has fees

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Initiator (faculty only)  
Gennady Gienko

Initiator (TYPE NAME)  

Approved  
Disapproved

Date  
Dean/Director of School/College

Date

Approved  
Disapproved  
Undergraduate/Graduate Academic

Date

Board Chair

Date

Approved  
Disapproved  
Provost or Designee

Date
## Course Action Request

**University of Alaska Anchorage**  
Proposal to Initiate, Add, Change, or Delete a Course

### 1a. School or College  
EN SOENGR  

### 1b. Division  
choose one  

### 1c. Department  
Geomatics  

### 2. Course Prefix  
GIS  

### 3. Course Number  
A495  

### 4. Previous Course Prefix & Number  
N/A  

### 5a. Credits/CEUs  
3  

### 5b. Contact Hours  
(Lecture + Lab)  
(0+15)  

### 6. Complete Course Title  
Internship in GIS  

**Abbreviated Title for Transcript (30 character)**

### 7. Type of Course  
- [x] Academic  
- [ ] Preparatory/Development  
- [ ] Non-credit  
- [ ] CEU  
- [ ] Professional Development  

### 8. Type of Action:  
- [ ] Add  
- [ ] Change  
- [x] Delete  

*If a change, mark appropriate boxes:*

- [ ] Prefix  
- [ ] Credits  
- [ ] Title  
- [ ] Grading Basis  
- [ ] Course Description  
- [ ] Test Score Prerequisites  
- [ ] Automatic Restrictions  
- [ ] Class  
- [ ] Level  
- [ ] College  
- [ ] Major  
- [ ] Other  

### 9. Repeat Status No  
- [ ] # of Repeats  
- [ ] Max Credits  

### 10. Grading Basis  
- [x] A-F  
- [ ] P/XP  
- [ ] NG  

### 11. Implementation Date  
*semester/year*  
From:  Fall/2014   
To:  99/9999  

### 12. Cross Listed with  
- [ ] Stacked with  

**Cross-Listed Coordination Signature**

### 13a. Impacted Courses or Programs:  
List any programs or college requirements that require this course.

*Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).*

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<td>Khrys Duddleston</td>
</tr>
</tbody>
</table>

**Initiator Name (typed): T.B. Quimby**  
**Initiator Signed Initials:** _________  
**Date:** __________________

### 13b. Coordination Email  
submitted to Faculty Listserv:  
[uaa-faculty@lists.uaa.alaska.edu](mailto:uaa-faculty@lists.uaa.alaska.edu)  

**Date:** 1/13/14

### 13c. Coordination with Library Liaison  
**Date:** 1/13/14

### 14. General Education Requirement  
**Mark appropriate box:**

- [ ] Oral Communication  
- [ ] Written Communication  
- [ ] Quantitative Skills  
- [ ] Humanities  
- [ ] Fine Arts  
- [ ] Social Sciences  
- [ ] Natural Sciences  
- [ ] Integrative Capstone

### 15. Course Description (suggested length 20 to 50 words)

### 16a. Course Prerequisite(s) (list prefix and number or test code and score)

### 16b. Co-requisite(s) (concurrent enrollment required)

### 16c. Automatic Restriction(s)

- [ ] College  
- [ ] Major  
- [ ] Class  
- [ ] Level

### 16d. Registration Restriction(s) (non-codable)

### 17. Mark if course has fees

### 18. Mark if course is a selected topic course

### 19. Justification for Action

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**Initiator (faculty only)**

**Gennady Gienko**  
**Initiator (TYPE NAME):**

**Approved**  
**Disapproved**

**Dean/Director of School/College**  
**Date**

**Department Chair**  
**Date**

**Provost or Designee**  
**Date**

**Undergraduate/Graduate Academic**  
**Date**

**Board Chair**  
**Date**

**College/School Curriculum Committee Chair**  
**Date**
2013/14 Geomatics Curriculum Update

13 January 2014

Prepared by Bart Quimby

Introduction

The Geomatics faculty have undertaken an effort to redesign the curriculum for the AAS and BS degrees in Geomatics and the UC and Minor in Geographic Information Systems over the past semester. This has been necessary due, in part, to issues with prerequisite changes, workload issues, and duplication of material in various courses.

The project involved initial discussions with the faculty in August and the Geomatics Advisory Board in September. This was followed by an industry survey which solicited information about the existing degrees and certificates and the need for additional degrees and certificates. Once the survey was completed the faculty met with industry and student representatives and the Geomatics Advisory Board to discuss the results.

Preliminary discussions about specific reforms were discussed in faculty meetings during the remainder of the semester. Several perspectives were considered including existing faculty expertise, known adjunct expertise, faculty workloads, and industry feedback. The week following final exams in December 2013, the majority of the faculty (Gienko, Hollingsworth, and Wang, with support by Quimby) met all day, every day, to work through the curricular redesign. This document lays out the current state of that work.

The Bachelors of Science in Geomatics

The central focus of the department is the Bachelor’s degree. As it currently stands, the degree has two concentrations: Surveying and Geographic Information Systems (GIS). Faculty have also received feedback from two firms in town about the need for a more software development oriented emphasis. It was found that a third concentration could be added without increasing the current course load commitment of the faculty so the new proposal includes a third “developer” concentration.

The result has been a redesigned degree. The significant changes include:

- The renaming of the GIS concentration to be “Geospatial Science”
- The addition of the “Geo-developer” concentration
- A reduction of overall credits for each concentration
- A stronger separation of surveying and geospatial concentrations
- A revision of course content to eliminate unnecessary duplication
- A revision of the mathematics requirements
- A revision of course prerequisites
- Revising course credits to three credits per course in most cases
- Renumbering and renaming many courses to correspond to changes in content, particularly in the GIS Courses.
- Outsourcing the Geomatics Professional Development courses by requiring BA A300, Organizational Theory, in their place.
• The addition of a new General Education course at the freshmen in leadership/teamwork principles currently in development by the College of Business and Public Policy
• The addition of a second semester of Physics
• The addition of ESM A450, Economic Analysis and Operations, as a co-requisite with the Capstone course
• A redesign of the capstone course, GEO A460, to include more explicit expectations for projects as well as a lecture component to include related topics.

The reduction in credits was achieved by separating the concentrations more than they were previously—actually increasing the depth in each of the concentrations. This means that the surveying concentration students are not required to take as many GIS courses as before and the Geospatial students are not required to take as many surveying courses as were previously required. In addition, two drawing courses (GEO A157, Analytical and Digital Cartography and GEO A248, Digital Terrain Cartography) were combined into one CAD for Surveyors course—there was significant duplication between the two existing courses. The boundary law courses were also reduced to three credits each.

The basic mathematics requirement has not changed. The students are still required to take pre-calculus and applied calculus. In addition, the existing GEO A146, Surveying Computations, course has been strengthen and renamed and an additional geomatics computation course has been added with the series now being: GEO A146, Geomatics Computations I, and GEO A246, Geomatics Computations II. The existing GEO A365, Geomatics Adjustments and Analysis has been renumbered and renamed and a new prerequisite course has been added to make a new series: GEO A265, Spatial Data Adjustments I, and GEO A366, Spatial Data Adjustments II.

Revising the courses to be three credits each, and redistributing their content as needed, was necessary to balance faculty workloads more easily. The university standard is three credit courses with faculty workloads consisting of either nine or twelve—depending on type of faculty appointment—credits per semester. Three credit courses make it possible to balance the workloads more effectively while still meeting the university workload requirements. A workload analysis is provided in Appendix C.

The decision to outsource the professional development courses was made when it was found that there was an adequate course available outside the department. Any geomatics specific content can be covered in the lecture portion of the capstone course. This move frees up the geomatics faculty to focus on needed technical topics while the professional practices are taught by faculty who focus their research on these issues.

Similarly, the use of ESM A450, Economic Analysis and Operations, instead of creating our own similar course, gives the students the business background required by accreditation and recommended by our own industry survey. Any geomatics specific information can be supplemented through the lecture component of the capstone course.

A second semester of physics was added to the curriculum so that the students are exposed to the physics of optics, which occurs in the second semester of the physics sequence. This move should enhance several of the required GEO and GIS courses. This move only added one credit to the degree as the students are required to take seven credits of natural science meet the general education requirements. Previously, they could chose from a wide variety of natural science courses to meet this requirement.
One of the messages received from the industry survey and advisory board discussions was the need for graduates to have better leadership and teamwork skills. As a result, we’ve entered into discussions with the College of Business and Public Policy (CBPP) about the possibility to create a freshman level general education course to introduce these skills early in the program so that the skills can be emphasized in the major courses throughout the curriculum. This idea was enthusiastically received and work is progressing on the development of this course. We’ve included this course in our program proposal assuming that it will be successfully created in time for the Fall 2014 semester. If the course is not created, then that spot in the curriculum will be replaced by another Social Science GER course.

One enticing feature of the new curriculum is that students can easily obtain the breadth of the old degree by choosing their elective courses to include courses required in the other concentrations. They can even complete two, or all three, of the concentrations with the addition of only a few courses above the minimum required for the degree. This makes the degree much more flexible in meeting the educational objectives of the students.

The Associates of Applied Science in Geomatics

One message we received from the industry survey and advisory board is that there is still a need for the AAS in Geomatics. There was a desire expressed by industry that the degree be a “2+2” degree with the AAS being the first two years of the Geomatics. This is problematic in that the first two years of the BS have a rather intense mathematics requirement that is not to be required of the AAS students. Also, many of the courses needed by the AAS, which is primarily a surveying degree, are in the last two years of the BS degree.

To meet that challenge, the AAS degree has been reconfigured to focus on the courses which have the lower math requirement. All the courses in newly configured AAS degree do apply to the new BS degree, however, a student who completes the AAS first will have to backtrack some to pick up the applied calculus course and second geomatics computations course as well as the lower level course for which these course are prerequisite.

Another interesting feature is the new AAS degree is completely included in the BS degree. This means that anyone who completes the surveying concentration in the BS degree is also entitled to the AAS degree if they wish to apply for it.

The Undergraduate Certificate in Geographic Information Systems

The reworking of courses made it necessary to revisit the UC in GIS. The faculty took the time to rework the certificate into a more coherent set of courses. Unfortunately, they were not able to fit the degree into two years due to course sequencing and timing of the course offerings.

The Geographic Information Systems Minor

As with the UC, it was necessary to rework the minor into a more coherent set of courses utilizing the courses developed for the new BS in Geomatics. This minor requires many credits that also double as general education courses an which may be applicable to other degrees, so that the additional work is not as large as the total number of credits would imply.

Remaining Work
As a result of discussion with our industry partners, there are plans in the work for both an OEC in Surveying and a Post-Baccalaureate Certificate in Geographic Information Systems utilizing the new set of courses. This work will be presented at a later date.

**Transition Plans**

The program faculty are sensitive to the problems created for students by these massive changes. To assist in this, a transition plan has been developed for each of the degrees. These will be provided to students to help them navigate the changes.
1a. School or College
EN SOENGR

1b. Department
Geomatics

2. Complete Program Title/Prefix
Minor, Geographic Information Systems

3. Type of Program
Choose one from the appropriate drop down menu:
Undergraduate: Minor
Graduate: CHOOSE ONE

This program is a Gainful Employment Program:
☐ Yes or ☑ No

4. Type of Action:
PROGRAM
☐ Add
☑ Change
☐ Delete

PREFIX
☐ Add
☐ Change
☐ Inactivate

5. Implementation Date (semester/year)
From: 09/2014 To: 99/999

6a. Coordination with Affected Units
Department, School, or College: ENGR
Initiator Name (typed): T.B. Quimby
Initiator Signed Initials: _________
Date:________________

6b. Coordination Email submitted to Faculty Listserv (uaa-faculty@lists.uaa.alaska.edu)
Date: 1/13/14

6c. Coordination with Library Liaison
Date: 1/13/14

7. Title and Program Description - Please attach the following:
☐ Cover Memo
☐ Catalog Copy in Word using the track changes function

8. Justification for Action
The existing curriculum was difficult to navigate and contained some duplication. This update was produced after extensive coordination with our advisory board and industry representatives to more closely align with their needs.

Initiator (faculty only)
Gennady Gienko
Initiator (TYPE NAME)

☑ Approved
☐ Disapproved
Dean/Director of School/College Date

☐ Approved
☐ Disapproved
Undergraduate/Graduate Academic Board Chair Date

☐ Approved
☐ Disapproved
Provost or Designee Date

☐ Approved
☐ Disapproved
Department Chair Date

☐ Approved
☐ Disapproved
College/School Curriculum Committee Chair Date
Minor, Geographic Information Systems (GIS)

Program Student Learning Outcomes

Students completing the Minor in Geographic Information Systems (GIS) will be able to:

1. Supplement their major education with professional application of GIS.
2. Create graphical presentations and maps using geospatial information
3. Analyze and manage geospatial data relative to your discipline or profession.

1. Students majoring in another subject who wish to minor in Geographic Information Systems must complete the following courses:
   - ENGR A161 Engineering Practices II 3
   - GIS A101 Introduction to GIS 3
   - GIS A201 Intermediate GIS 3
   - GIS A301 Spatial Data Structures 3
   - GIS A366 Spatial Analysis 3
   - GIS A458 Spatial Data Management 3
   - Total: 18
Minor, Geographic Information Systems (GIS)

Program Student Learning Outcomes

Students completing the Minor in Geographic Information Systems (GIS) will be able to:

1. Supplement their major education with professional application of GIS.
2. Create graphical presentations and maps using geospatial information.
3. Analyze and manage geospatial data relative to your discipline or profession.

1. Students majoring in another subject who wish to minor in Geographic Information Systems must complete a minimum of 18 credits selected from the following courses:

- ENGR A161 Engineering Practices II 3
- GIS A101 Introduction to GIS 3
- GIS A201 Intermediate GIS 3
- GIS A301 Spatial Data Structures 3
- GEO A167 Remote Sensing and Image Analysis (4)
- GIS A268 Elements of Geographic Information Systems (GIS) (4)
- GIS A366 Spatial Information Analysis and Modeling (3)
- GIS A367 GIS and Remote Sensing (3)
- GIS A369 Land Information Systems (3)
- GIS A370 GIS and Remote Sensing for Natural Resources (3)
- GIS A433 Coastal Mapping (3)
- GIS A458 Design and Management of Spatial Information (3)
- GIS A468 Integration of Geomatic Technologies (3)
- GIS A490 Selected Advanced Topics in GIS (1-6)
Program/Prefix Action Request  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Program of Study or Prefix

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<th>1b. Department</th>
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<td>EN SOENGR</td>
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<td>This program is a Gainful Employment Program: □ Yes or □ No</td>
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<tr>
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<tr>
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<tr>
<td>Initiator Name (typed): T.B. Quimby</td>
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<td>Initiator Signed Initials: _________</td>
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<th>6b. Coordination Email submitted to Faculty Listserv (<a href="mailto:uaa-faculty@lists.uaa.alaska.edu">uaa-faculty@lists.uaa.alaska.edu</a>)</th>
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<table>
<thead>
<tr>
<th>7. Title and Program Description - Please attach the following:</th>
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</thead>
<tbody>
<tr>
<td>☑ Cover Memo</td>
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<tr>
<td>☑ Catalog Copy in Word using the track changes function</td>
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<table>
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<tr>
<th>8. Justification for Action</th>
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<tr>
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<tr>
<td>Gennady Gienko</td>
</tr>
<tr>
<td>Date</td>
</tr>
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<tr>
<td>Dean/Director of School/College</td>
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<table>
<thead>
<tr>
<th>Department Chair</th>
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<tbody>
<tr>
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</table>

<table>
<thead>
<tr>
<th>Undergraduate/Graduate Academic Board Chair</th>
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<tr>
<td>Date</td>
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<table>
<thead>
<tr>
<th>Provost or Designee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
</tr>
</tbody>
</table>

365
Undergraduate Certificate, Geographic Information Systems (GIS)

Program Student Learning Outcomes
Students completing the Undergraduate Certificate in Geographic Information Systems (GIS) will be able to:

1. Create graphical presentations and maps using geospatial information
2. Create, analyze and manage geospatial data
3. Process and analyze remotely sensed imagery.

Admission Requirements
Satisfy the Admission to Certificate and Associate’s Degree Programs Requirements in Chapter 7.

Course Requirements
Certain courses require prerequisites or faculty permission. Call (907) 786-1972 for further information.

Major Requirements
In order to receive an Undergraduate Certificate in GIS, students must achieve a grade of C or higher in all courses applied to the certificate.

1. Complete 8 credits of Physics:
   PHYS A123 Basic Physics I (3)
   PHYS A123L Basic Physics I Laboratory (1)
   or
   PHYS A211 General Physics I (3)
   PHYS A211L General Physics I Laboratory (1)

   And

   PHYS A124 Basic Physics II (3)
   PHYS A124L Basic Physics II Laboratory (1)
   or
   PHYS A212 General Physics II (3)
   PHYS A212L General Physics II Laboratory (1)

2. Complete the following required courses (23 credits):
   GIS A101 Introduction to GIS 3
   GEO A351 Remote Sensing 3
   GEO A460 Geomatics Capstone Project 3
   GIS A201 Intermediate GIS 3
   GIS A301 Spatial Data Structures 3
   GIS A366 Spatial Information Analysis and Modeling 3
   GIS A367 Image Analysis 3
   GIS A458 Spatial Analysis 3

3. Complete 3 credits from the following elective courses: 3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO A354</td>
<td>City and Regional Planning</td>
<td>(3)</td>
</tr>
<tr>
<td>GEO A433</td>
<td>Hydrographic Surveying</td>
<td>(3)</td>
</tr>
<tr>
<td>GIS A369</td>
<td>Land Information Systems</td>
<td>(3)</td>
</tr>
<tr>
<td>GIS A370</td>
<td>GIS and Remote Sensing for Natural Resources</td>
<td>(3)</td>
</tr>
<tr>
<td>GIS A433</td>
<td>Coastal Mapping</td>
<td>(3)</td>
</tr>
<tr>
<td>GIS A490</td>
<td>Selected Advanced Topics in GIS</td>
<td>(1-6)</td>
</tr>
</tbody>
</table>

4. A total of 34 credits are required for the Undergraduate Certificate in GIS.
Undergraduate Certificate, Geographic Information Systems (GIS)

Program Student Learning Outcomes
Students completing the Undergraduate Certificate in Geographic Information Systems (GIS) will be able to:

1. Create graphical presentations and maps using geospatial information
2. Create, analyze and manage geospatial data
3. Process and analyze remotely sensed imagery.

Admission Requirements
Satisfy the Admission to Certificate and Associate’s Degree Programs Requirements in Chapter 7.

Course Requirements
Certain courses require prerequisites or faculty permission. Call (907) 786-1972 for further information.

Major Requirements
In order to receive an Undergraduate Certificate in GIS, students must achieve a grade of C or higher in all courses applied to the certificate.

1. Complete 8 credits of Physics:
   PHYS A123 Basic Physics I (3)
   PHYS A123L Basic Physics I Laboratory (1)
   or
   PHYS A211 General Physics I (3)
   PHYS A211L General Physics I Laboratory (1)

   And

   PHYS A124 Basic Physics II (3)
   PHYS A124L Basic Physics II Laboratory (1)
   or
   PHYS A212 General Physics II (3)
   PHYS A212L General Physics II Laboratory (1)

1.2. Complete the following required courses (23 credits):
   GEO A137 GIS A101 Principles of Mapping Introduction to GIS 3
   GEO A167 A351 Remote Sensing and Image Analysis 43
   GEO A460 Geomatics Design Capstone Project 3
   GIS A266 A201 Elements of Geographic Information Intermediate GIS Systems (GIS) 43
   GIS A301 Spatial Data Structures 3
   GIS A366 Spatial Information Analysis and Modeling 3
   GIS A367 GIS and Remote Sensing Image Analysis 3
   GIS A458 Design and Management of Spatial Information 3

2.3. Complete 9-3 credits from the following elective courses: 93
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO A354</td>
<td>City and Regional Planning</td>
<td>(3)</td>
</tr>
<tr>
<td>GEO A433</td>
<td>Hydrographic Surveying</td>
<td>(3)</td>
</tr>
<tr>
<td>GEO A490</td>
<td>Selected Advanced Topics in Geomatics (1-6)</td>
<td></td>
</tr>
<tr>
<td>GIS A295</td>
<td>Internship in Geographic Information</td>
<td>(3)</td>
</tr>
<tr>
<td></td>
<td>Internship in Geographic Information</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internship in Geographic Information</td>
<td></td>
</tr>
<tr>
<td>GIS A490</td>
<td>Internship in Geographic Information</td>
<td>(3)</td>
</tr>
<tr>
<td>GIS A369</td>
<td>Land Information Systems</td>
<td>(3)</td>
</tr>
<tr>
<td>GIS A370</td>
<td>GIS and Remote Sensing for Natural Resources</td>
<td>(3)</td>
</tr>
<tr>
<td>GIS A369</td>
<td>Land Information Systems</td>
<td>(3)</td>
</tr>
<tr>
<td>GIS A370</td>
<td>GIS and Remote Sensing for Natural Resources</td>
<td>(3)</td>
</tr>
<tr>
<td>GIS A371</td>
<td>GIS Applications I</td>
<td>(3)</td>
</tr>
<tr>
<td>GIS A433</td>
<td>Coastal Mapping</td>
<td>(3)</td>
</tr>
<tr>
<td>GIS A468</td>
<td>Integration of Geomatics Technologies</td>
<td>(3)</td>
</tr>
<tr>
<td>GIS A471</td>
<td>GIS Applications II</td>
<td>(4)</td>
</tr>
<tr>
<td>GIS A490</td>
<td>Selected Advanced Topics in GIS</td>
<td>(1-6)</td>
</tr>
</tbody>
</table>

### 3.4.
A maximum of 3 credits of Internship (GIS A295 or GIS A495) and 3 credits of Advanced Topics in Geomatics (GEO A490) or Advanced Topics in GIS (GIS A490) can be counted toward the Certificate in GIS. Faculty approval of the GEO A490 or GIS A490 topic is necessary for application of the course to the certificate program.

### 4.5.
A total of 32-34 credits are required for the Undergraduate Certificate in GIS.
1a. School or College
   EN SOENGR

1b. Department
   Geomatics

2. Complete Program Title/Prefix
   Associate of Applied Science, Geomatics

3. Type of Program
   Choose one from the appropriate drop down menu:
   Undergraduate: or Graduate: CHOOSE ONE
   This program is a Gainful Employment Program: □ Yes or □ No

4. Type of Action:
   PROGRAM
   □ Add
   □ Change
   □ Delete
   PREFIX
   □ Add
   □ Change
   □ Inactivate

5. Implementation Date (semester/year)
   From: 09/2014 To: 99/999

6a. Coordination with Affected Units
   Department, School, or College: ENGR
   Initiator Name (typed): T.B. Quimby
   Initiator Signed Initials: _________
   Date:________________

6b. Coordination Email submitted to Faculty Listserv (uaa-faculty@lists.uaa.alaska.edu)
   Date: 1/13/14

6c. Coordination with Library Liaison
   Date: 1/13/14

7. Title and Program Description - Please attach the following:
   □ Cover Memo
   □ Catalog Copy in Word using the track changes function

8. Justification for Action
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   their needs.

Initiator (faculty only)
Gennady Gienko
Initiator (TYPE NAME)

Approved Disapproved
☐ ☐ Dean/Director of School/College Date

☐ ☐ Undergraduate/Graduate Academic Board Chair Date

☐ ☐ Provost or Designee Date

Approved Disapproved
☐ ☐ Department Chair Date

Approved Disapproved
☐ ☐ College/School Curriculum Committee Chair Date

Approved Disapproved
☐ ☐ Provost or Designee Date
Associate of Applied Science, Geomatics

Program Student Learning Outcomes

Students completing the Associate of Applied Science degree in Geomatics will be able to:

1. Operate industry standard field surveying equipment
2. Keep surveying records
3. Perform basic surveying computations
4. Produce surveying drawings
5. Apply knowledge of basic boundary law in the field
6. Utilize basic Geographic Information Systems in an engineering context.

Admission Requirements

Satisfy the Admission to Undergraduate Certificate and Associate Degree Programs Requirements in Chapter 7.

General University Requirements

Complete the Associate of Applied Science General Degree Requirements located at the beginning of this chapter. Some of the major requirements will also fulfill Associate of Applied Science degree general requirements. Students should coordinate choices carefully with their academic advisor in the Department of Geomatics.

Academic Progress

A student who is unable to earn a satisfactory grade in the major requirement courses during their initial enrollment may attempt to earn a satisfactory grade one additional time, on a space-available basis. ‘Satisfactory grade’ means a grade of C or better, as this is the usual requirement for prerequisites in Geomatics courses (GEO and GIS). Failure to earn a grade of C or better on the second attempt may result in removal from the Geomatics program.

Major Requirements

1. Complete 8 credits in Physics: 8

   PHYS A123 Basic Physics I (3)
   PHYS A123L Basic Physics I Laboratory (1)
   or
   PHYS A211 General Physics I (3)
   PHYS A211L General Physics I Laboratory (1)

   And

   PHYS A124 Basic Physics II (3)
   PHYS A124L Basic Physics II Laboratory (1)
   or
   PHYS A212 General Physics II (3)
   PHYS A212L General Physics II Laboratory (1)

2. Complete 3 credits from the following science electives: 3

   BIOL A115 Fundamentals of Biology (4)
   BIOL/GEOL A178 Fundamentals of Oceanography (3)
   ENVI A211 Environmental Science: Systems and Processes (3)
   GEOG A111 Earth Systems: Elements of Physical Geography (3)
   GEOL A111 Physical Geography (4)
GEOL A115       Environmental Geology (3)

3. Complete the following required courses (43 credits):

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
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<td>BA A300</td>
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</tr>
<tr>
<td>ENGL A212</td>
<td>Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENGR A161</td>
<td>Engineering Practices II</td>
<td>3</td>
</tr>
<tr>
<td>GEO A146</td>
<td>Geomatics Computations I</td>
<td>3</td>
</tr>
<tr>
<td>GEO A156</td>
<td>Fundamentals of Surveying</td>
<td>3</td>
</tr>
<tr>
<td>GEO A157</td>
<td>CAD for Surveyors</td>
<td>3</td>
</tr>
<tr>
<td>GEO A266</td>
<td>Advanced Surveying</td>
<td>3</td>
</tr>
<tr>
<td>GEO A267</td>
<td>Boundary Law I</td>
<td>3</td>
</tr>
<tr>
<td>GIS A101</td>
<td>Introduction to GIS</td>
<td>3</td>
</tr>
<tr>
<td>GIS A201</td>
<td>Intermediate GIS</td>
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<td>Remote Sensing</td>
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<tr>
<td>MATH A109</td>
<td>Precalculus †</td>
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</tr>
<tr>
<td>PEP A110</td>
<td>Remote First Aid (1)</td>
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<td></td>
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<tr>
<td>PEP A112</td>
<td>First Aid and CPR for Professionals (1)</td>
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</tr>
<tr>
<td>PHIL A305</td>
<td>Professional Ethics</td>
<td>3</td>
</tr>
</tbody>
</table>

† MATH A107 College Algebra and MATH A108 Trigonometry (both courses) may be substituted for MATH A109 Precalculus.

4. A total of 60-61 credits are required for the degree.
Associate of Applied Science, Geomatics

**Program Student Learning Outcomes**

Students completing the Associate of Applied Science degree in Geomatics will be able to:

1. Operate industry standard field surveying equipment
2. Keep surveying records
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**Academic Progress**

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**Major Requirements**

1. Complete 48 credits in Physics:
   - PHYS A123 Basic Physics I (3)
   - PHYS A123L Basic Physics I Laboratory (1)
   - or
   - PHYS A211 General Physics I (3)
   - PHYS A211L General Physics I Laboratory (1)
   
   And
   - PHYS A124 Basic Physics II (3)
   - PHYS A124L Basic Physics II Laboratory (1)
   - or
   - PHYS A212 General Physics II (3)
   - PHYS A212L General Physics II Laboratory (1)

2. Complete 3 credits from the following science electives: 3
   - BIOL A115 Fundamentals of Biology (4)
   - BIOL/GEOL A178 Fundamentals of Oceanography (3)
   - ENVI A211 Environmental Science: Systems and Processes (3)
   - GEOG A111 Earth Systems: Elements of Physical Geography (3)
### 2.3. Complete the following required courses (50-43 credits):

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<tr>
<td>BA A300</td>
<td>Organizational Theory</td>
<td>3</td>
</tr>
<tr>
<td>ENGL A212</td>
<td>Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENGR A161</td>
<td>Engineering Practices II</td>
<td>3</td>
</tr>
<tr>
<td>GEO A137</td>
<td>Principles of Mapping</td>
<td>3</td>
</tr>
<tr>
<td>GEO A146</td>
<td>Surveying Geomatics Computations</td>
<td>3</td>
</tr>
<tr>
<td>GEO A155-A156</td>
<td>Fundamentals of Surveying</td>
<td>3</td>
</tr>
<tr>
<td>GEO A157</td>
<td>Analytical and Digital Cartography/CAD for Surveyors</td>
<td>3</td>
</tr>
<tr>
<td>GEO A158</td>
<td>Geomatics Computer Fundamentals</td>
<td>1</td>
</tr>
<tr>
<td>GEO A167</td>
<td>Remote Sensing and Image Analysis</td>
<td>4</td>
</tr>
<tr>
<td>GEO A248</td>
<td>Digital Terrain Cartography</td>
<td>3</td>
</tr>
<tr>
<td>GEO A256</td>
<td>Municipal and Civil Geomatics</td>
<td>3</td>
</tr>
<tr>
<td>GEO A257</td>
<td>Elements of Photogrammetry</td>
<td>3</td>
</tr>
<tr>
<td>GEO A266</td>
<td>Advanced Surveying</td>
<td>3</td>
</tr>
<tr>
<td>GEO A267</td>
<td>Boundary Law I</td>
<td>43</td>
</tr>
<tr>
<td>GIS A101</td>
<td>Introduction to GIS</td>
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<tr>
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</tr>
<tr>
<td>GIS A351</td>
<td>Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>GIS A268</td>
<td>Elements of Geographic Information</td>
<td>4</td>
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<td>MATH A109</td>
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</table>

† MATH A107 College Algebra and MATH A108 Trigonometry (both courses) may be substituted for MATH A109 Precalculus.

### 3.4. A total of 60-61 credits is are required for the degree. Electives to total of 63 credits.
Program/Prefix Action Request  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Program of Study or Prefix

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN SOENGR</td>
<td>Geomatics</td>
</tr>
</tbody>
</table>

2. Complete Program Title/Prefix  
Bachelor of Science, Geomatics

3. Type of Program  
Choose one from the appropriate drop down menu:  
Undergraduate:  
Bachelor of Science  
Graduate:  
CHOOSE ONE

This program is a Gainful Employment Program:  
☐ Yes  or  ☒ No

4. Type of Action:  
PROGRAM  
☐ Add  
☒ Change  
☐ Delete  

PREFIX  
☐ Add  
☐ Change  
☐ Inactivate

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From: 09/2014  
To: 99/999

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Initiator Name (typed): T.B. Quimby  
Initiator Signed Initials: _________  
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Initiator (faculty only)  
Gennady Gienko  
Initiator (TYPE NAME)  
Date

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☐ Disapproved  
Dean/Director of School/College  
Date

☐ Approved  
☐ Disapproved  
Undergraduate/Graduate Academic Board Chair  
Date

☐ Approved  
☐ Disapproved  
Provost or Designee  
Date

☑ Approved  
Disapproved  
Department Chair  
Date

☐ Approved  
☐ Disapproved  
College/School Curriculum Committee Chair  
Date
Bachelor of Science, Geomatics

Educational Objectives and Program Student Learning Outcomes

Program Educational Objectives

The UAA Bachelor of Science, Geomatics program has the following program educational objectives.

Within five years of graduation, graduates of the Geomatics program will have achieved the following.

1. Graduates who are pursuing careers in the surveying area will have attempted the AELS Board’s Fundamentals of Surveying examination.
2. Graduates who are pursuing careers in non-surveying areas will have attempted equivalent professional certification or registration, e.g., CP, GISP, as appropriate for their career path.
3. Obtain membership in one or more professional organizations relevant to their career of choice.
4. Will be employed in the fields within the geomatics disciplines, including: surveying of various types, mapping and cartography, GIS/LIS, remote sensing, geodesy, photogrammetry or hydrographic surveying.
5. Will continue their professional development by participating in professional development courses or sessions, or complete higher education courses.
6. Will teach at least one workshop or training session, make one conference presentation, or publish one article relevant to their career.

Program Student Learning Outcomes

In keeping with the program educational objectives, it is expected that graduates of the UAA Geomatics program will have:

1. An ability to apply knowledge of mathematics, statistics, and general physics;
2. An ability to collect, analyze and interpret data in all of the recognized surveying and mapping areas;
3. An ability to identify, formulate, and design a geomatics system, component or process to meet desired needs;
4. An ability to function on multidisciplinary as well as on interdisciplinary teams;
5. An ability to think critically and to solve geomatics problems creatively and constructively;
6. An understanding of professional and ethical responsibility;
7. An ability to communicate effectively;
8. The broad education necessary to understand the impact of geomatics solutions in a global and societal context;
9. A recognition of the need for, and ability to engage in, lifelong learning;
10. A knowledge of contemporary issues in professional practice;
11. An ability to use the techniques, skills and modern geomatics tools necessary for geomatics practice; and
12. An ability to apply knowledge in all six areas of surveying and mapping:
   a. Field surveying and methods;
   b. Photogrammetric mapping, image interpretation and remote sensing;
   c. Surveying calculation and data adjustment;
   d. Geodetic coordinates and astronomy;
   e. Cartographic representation, projections, and map production;
   f. Computer-based multipurpose cadastre, geographic information systems.

Admission Requirements

Complete the Admission to Baccalaureate Programs Requirements in Chapter 7.

Academic Progress

A student who is unable to earn a satisfactory grade in the major requirement courses during their initial enrollment may attempt to earn a satisfactory grade one additional time, on a space-available basis. ‘Satisfactory grade’ means a grade of C or better, as this is the usual requirement for prerequisites in Geomatics courses (GEO and GIS). Failure to earn a grade of C or better on the second attempt may result in removal from the Geomatics program.
Graduation Requirements

D. General University Requirements

Complete the General University Requirements for all Baccalaureate Degrees at the beginning of this chapter.

E. General Education Requirements

Complete the General Education Requirements for Baccalaureate Degrees at the beginning of this chapter.

F. Major Requirements

1. Complete 8 credits in Physics from one of the following course pairs: 8
   - PHYS A123 Basic Physics I (3)
   - PHYS A123L Basic Physics I Laboratory (1)
   - or
   - PHYS A211 General Physics I (3)
   - PHYS A211L General Physics I Laboratory (1)

   And

   - PHYS A124 Basic Physics II (3)
   - PHYS A124L Basic Physics II Laboratory (1)
   - or
   - PHYS A212 General Physics II (3)
   - PHYS A212L General Physics II Laboratory (1)

2. Complete 3 credits from the following science electives: 3
   - BIOL A115 Fundamentals of Biology (4)
   - BIOL/GEOL A178 Fundamentals of Oceanography (3)
   - ENVI A211 Environmental Science: Systems and Processes (3)
   - GEOG A111 Earth Systems: Elements of Physical Geography (3)
   - GEOL A111 Physical Geography (4)
   - GEOL A115 Environmental Geology (3)

3. Complete the following (13 credits):
   - MATH A109 Precalculus † 6
   - MATH A272 Applied Calculus * 3
   - STAT A253 Applied Statistics for the Sciences 4

   † MATH A107 College Algebra and MATH A108 Trigonometry (both) may be substituted for MATH A109 Precalculus.
   * MATH A200 Calculus I may be substituted for MATH A272 Applied Calculus.

4. Complete all of the following (54 credits):
   - BA/JUST A241 Business Law I 3
   - BA A300 Organizational Theory 3
   - ENGL A212 Technical Writing 3
   - ENGR A161 Engineering Practices II 3
   - ESM A450 Economic Analysis and Operations 3
   - GEO A146 Geomatics Computations I 3
5. Complete the specified credits in one of the concentration areas:

**Surveying Concentration**

a. Complete the following (19 credits):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO A157</td>
<td>CAD for Surveyors</td>
<td>3</td>
</tr>
<tr>
<td>GEO A256</td>
<td>Engineering Surveying</td>
<td>3</td>
</tr>
<tr>
<td>GEO A266</td>
<td>Advanced Surveying</td>
<td>3</td>
</tr>
<tr>
<td>GEO A366</td>
<td>Spatial Data Adjustments II</td>
<td>3</td>
</tr>
<tr>
<td>GEO A369</td>
<td>Cadastral Surveys</td>
<td>3</td>
</tr>
<tr>
<td>GEO A457</td>
<td>Boundary Law II</td>
<td>3</td>
</tr>
<tr>
<td>PEP A110</td>
<td>Remote First Aid (1)</td>
<td></td>
</tr>
<tr>
<td>or</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>PEP A112</td>
<td>First Aid and CPR for Professionals</td>
<td></td>
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<td>1</td>
</tr>
</tbody>
</table>

b. Complete 6 credits from the following Geomatics electives:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO A354</td>
<td>City and Regional Planning (3)</td>
<td></td>
</tr>
<tr>
<td>GEO A355</td>
<td>Land Development and Design (3)</td>
<td></td>
</tr>
<tr>
<td>GEO A410</td>
<td>Airborne LiDAR Surveying (3)</td>
<td></td>
</tr>
<tr>
<td>GEO A420</td>
<td>High Density Spatial Analysis (3)</td>
<td></td>
</tr>
<tr>
<td>GEO A433</td>
<td>Hydrographic Surveying (3)</td>
<td></td>
</tr>
<tr>
<td>GEO A490</td>
<td>Selected Advanced Topics in Geomatics (1-6)</td>
<td></td>
</tr>
<tr>
<td>GIS A301</td>
<td>Spatial Data Structures (3)</td>
<td></td>
</tr>
<tr>
<td>GIS A366</td>
<td>Spatial Analysis (3)</td>
<td></td>
</tr>
<tr>
<td>GIS A367</td>
<td>Image Analysis (3)</td>
<td></td>
</tr>
<tr>
<td>GIS A369</td>
<td>Land Information Systems (3)</td>
<td></td>
</tr>
<tr>
<td>GIS A433</td>
<td>Coastal Mapping (3)</td>
<td></td>
</tr>
<tr>
<td>GIS A458</td>
<td>Spatial Data Management (3)</td>
<td></td>
</tr>
<tr>
<td>GIS A490</td>
<td>Selected Advanced Topics in GIS (1-6)</td>
<td></td>
</tr>
</tbody>
</table>

**Geospatial Concentration**

c. Complete the following (18 credits):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO A410</td>
<td>Airborne LiDAR Surveying (3)</td>
<td></td>
</tr>
</tbody>
</table>
d. Complete 6 credits from the following:  
- CSCE A201 Computer Programming I (4)
- CSCE A202 Object-Oriented Programming (3)
- CSCE A360 Database Systems (3)
- GEO A157 CAD for Surveyors (3)
- GEO A256 Engineering Surveying (3)
- GEO A266 Advanced Surveying (3)
- GEO A354 City and Regional Planning (3)
- GEO A355 Land Development and Design (3)
- GEO A365 Spatial Data Adjustments II (3)
- GEO A433 Hydrographic Surveying (3)
- GEO A490 Selected Advanced Topics in Geomatics (1-6)
- GIS A369 Land Information Systems (3)
- GIS A433 Coastal Mapping (3)
- GIS A490 Selected Advanced Topics in GIS (1-6)
- PEP A110 Remote First Aid (1)
  or
- PEP A112 First Aid and CPR for Professionals (1)

Developer Concentration

a. Complete the following (25 credits)
- CSCE A201 Computer Programming I (4)
- CSCE A202 Object-Oriented Programming (3)
- CSCE A360 Database Systems (3)
- GEO A420 High Density Spatial Data Analysis (3)
- GIS A301 Spatial Data Structures (3)
- GIS A366 Spatial Analysis (3)
- GIS A367 Image Analysis (3)
- GIS A458 Spatial Data Management (3)

6. A total of 120-121 credits are required for the degree of which 42 must be upper division.
Bachelor of Science, Geomatics

Educational Objectives and Program Student Learning Outcomes

Program Educational Objectives
The UAA Bachelor of Science, Geomatics program has the following program educational objectives.

Within five years of graduation, graduates of the Geomatics program will have achieved the following.

1. Graduates who are pursuing careers in the surveying area will have attempted the AELS Board’s Fundamentals of Surveying examination.
2. Graduates who are pursuing careers in non-surveying areas will have attempted equivalent professional certification or registration, e.g., CP, GISP, as appropriate for their career path.
3. Obtain membership in one or more professional organizations relevant to their career of choice.
4. Will be employed in the fields within the geomatics disciplines, including: surveying of various types, mapping and cartography, GIS/LIS, remote sensing, geodesy, photogrammetry or hydrographic surveying.
5. Will continue their professional development by participating in professional development courses or sessions, or complete higher education courses.
6. Will teach at least one workshop or training session, make one conference presentation, or publish one article relevant to their career.

Program Student Learning Outcomes
In keeping with the program educational objectives, it is expected that graduates of the UAA Geomatics program will have:

1. An ability to apply knowledge of mathematics, statistics, and general physics;
2. An ability to collect, analyze and interpret data in all of the recognized surveying and mapping areas;
3. An ability to identify, formulate, and design a geomatics system, component or process to meet desired needs;
4. An ability to function on multidisciplinary as well as on interdisciplinary teams;
5. An ability to think critically and to solve geomatics problems creatively and constructively;
6. An understanding of professional and ethical responsibility;
7. An ability to communicate effectively;
8. The broad education necessary to understand the impact of geomatics solutions in a global and societal context;
9. A recognition of the need for, and ability to engage in, lifelong learning;
10. A knowledge of contemporary issues in professional practice;
11. An ability to use the techniques, skills and modern geomatics tools necessary for geomatics practice; and
12. An ability to apply knowledge in all six areas of surveying and mapping:
   a. Field surveying and methods;
   b. Photogrammetric mapping, image interpretation and remote sensing;
   c. Surveying calculation and data adjustment;
   d. Geodetic coordinates and astronomy;
   e. Cartographic representation, projections, and map production;
   f. Computer-based multipurpose cadastre, geographic information systems.

Admission Requirements
Complete the Admission to Baccalaureate Programs Requirements in Chapter 7.

Academic Progress
A student who is unable to earn a satisfactory grade in the major requirement courses during their initial enrollment may attempt to earn a satisfactory grade one additional time, on a space-available basis. 'Satisfactory grade' means a grade of C or better, as this is the usual requirement for prerequisites in Geomatics courses (GEO and GIS). Failure to earn a grade of C or better on the second attempt may result in removal from the Geomatics program.
Graduation Requirements

A. General University Requirements

Complete the General University Requirements for all Baccalaureate Degrees at the beginning of this chapter.

B. General Education Requirements

Complete the General Education Requirements for Baccalaureate Degrees at the beginning of this chapter.

C. Major Requirements

1. Complete 48 credits in Physics from one of the following course pairs:
   - PHYS A123  Basic Physics I (3)
   - PHYS A123L  Basic Physics I Laboratory (1)
   Or
   - PHYS A211  General Physics I (3)
   - PHYS A211L  General Physics I Laboratory (1)
   And
   - PHYS A124  Basic Physics II (3)
   - PHYS A124L  Basic Physics II Laboratory (1)
   Or
   - PHYS A212  General Physics II (3)
   - PHYS A212L  General Physics II Laboratory (1)

2. Complete 3 credits from the following science electives:
   - BIOL A115  Fundamentals of Biology (4)
   - BIOL/GEOL A178  Fundamentals of Oceanography (3)
   - ENVI A211  Environmental Science: Systems and Processes (3)
   - GEOG A111  Earth Systems: Elements of Physical Geography (3)
   - GEOL A111  Physical Geography (4)
   - GEOL A115  Environmental Geology (3)

2.3. Complete the following (21-13 credits):
   - CSE A102  Introduction to Computer Systems 1
   - ENGL A212  Technical Writing 3
   - ENGR A161  Engineering Practices II 3
   - GEO A158  Geomatics Computer Fundamentals 1
   - MATH A109  Precalculus † 6
   - MATH A272  Applied Calculus * 3
   - STAT A253  Applied Statistics for the Sciences 4

† MATH A107 College Algebra and MATH A108 Trigonometry (both) may be substituted for MATH A109 Precalculus.

* MATH A200 Calculus I may be substituted for MATH A272 Applied Calculus.

2.4. Complete all of the following (24-54 credits):
   - BA/JUST A241  Business Law I 3
   - BA A300  Organizational Theory 3
   - ENGL A212  Technical Writing 3
**Surveying Emphasis Concentration**

a. Complete the following (4-19 credits):

- GEO A117 CAD for Surveyors 3
- GEO A256 Engineering Surveying 3
- GEO A266 Advanced Surveying 3
- GEO A366 Spatial Data Adjustments II 3
- GEO A369 Cadastral Surveys 3
- GEO A433 Hydrographic Surveying 3
- GEO A457 Boundary Law II 3
- PEP A110 Remote First Aid (1) or 1
- PEP A112 First Aid and CPR for Professionals (1)
b. Complete **79** credits from the following Geomatics electives:

- GEO A354  City and Regional Planning (3)
- GEO A355  Land Development and Design (3)
- GEO A358  Programming for Digital Cartography (3)
- GEO A410  Airborne LiDAR Surveying (3)
- GEO A420  High Density Spatial Analysis (3)
- GEO A433  Hydrographic Surveying (3)
- GEO A459  Geodetic Geomatics (3)
- GEO A467  Analytical and Digital Photogrammetry (3)
- GEO A490  Selected Advanced Topics in Geomatics (1-6)
- GIS A301  Spatial Data Structures (3)
- GIS A366  Spatial Analysis (3)
- GIS A367  GIS and Remote Sensing Image Analysis (3)
- GIS A369  Land Information Systems (3)
- GIS A371  GIS Applications I (3)
- GIS A433  Coastal Mapping (3)
- GIS A458  Design and Management of Spatial Data Management (3)
- GEO A157  CAD for Surveyors (3)
- GEO A256  Engineering Surveying (3)
- GEO A266  Advanced Surveying (3)
- GEO A354  City and Regional Planning (3)
- GEO A355  Land Development and Design (3)
- GEO A358  Programming for Digital Cartography (3)
- GEO A365  Spatial Data Adjustments II (3)
- GEO A433  Hydrographic Surveying (3)

**Geographic Information Systems (GIS) Emphasis: Geospatial Concentration**

a. Complete the following (3-18 credits):

- GEO A410  Airborne LiDAR Surveying (3)
- GEO A420  High Density Spatial Data Analysis (3)
- GIS A301  Spatial Data Structures (3)
- GIS A366  Spatial Analysis (3)
- GIS A367  Image Analysis (3)
- GIS A458  Design and Management of Spatial Data Management (3)
- GEO A157  CAD for Surveyors (3)
- GEO A256  Engineering Surveying (3)
- GEO A266  Advanced Surveying (3)
- GEO A354  City and Regional Planning (3)
- GEO A355  Land Development and Design (3)
- GEO A358  Programming for Digital Cartography (3)
- GEO A365  Spatial Data Adjustments II (3)
- GEO A433  Hydrographic Surveying (3)

b. Complete **86** credits from the following:

- CSCE A201  Computer Programming I (4)
- CSCE A202  Object-Oriented Programming (3)
- CSCE A360  Database Systems (3)
- GEO A157  CAD for Surveyors (3)
- GEO A256  Engineering Surveying (3)
- GEO A266  Advanced Surveying (3)
- GEO A354  City and Regional Planning (3)
- GEO A355  Land Development and Design (3)
- GEO A358  Programming for Digital Cartography (3)
- GEO A365  Spatial Data Adjustments II (3)
- GEO A433  Hydrographic Surveying (3)
GEO A467 Analytical and Digital Photogrammetry (3)
GEO A490 Selected Advanced Topics in Geomatics (1-6)
GIS A367 GIS and Remote Sensing (3)
GIS A369 Land Information Systems (3)
GIS A370 GIS and Remote Sensing for Natural Resources (3)
GIS A371 GIS Applications I (2)
GIS A433 Coastal Mapping (3)
GIS A471 GIS Applications II (4)
GIS A490 Selected Advanced Topics in GIS (1-6)
PEP A110 Remote First Aid (1)
or
PEP A112 First Aid and CPR for Professionals (1)

**Developer Concentration**

a. Complete the following (25 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCE A201</td>
<td>Computer Programming I (4)</td>
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</tr>
<tr>
<td>CSCE A202</td>
<td>Object-Oriented Programming (3)</td>
<td></td>
</tr>
<tr>
<td>CSCE A360</td>
<td>Database Systems (3)</td>
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<tr>
<td>GEO A420</td>
<td>High Density Spatial Data Analysis (3)</td>
<td></td>
</tr>
<tr>
<td>GIS A301</td>
<td>Spatial Data Structures (3)</td>
<td></td>
</tr>
<tr>
<td>GIS A366</td>
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<td></td>
</tr>
<tr>
<td>GIS A367</td>
<td>Image Analysis (3)</td>
<td></td>
</tr>
<tr>
<td>GIS A458</td>
<td>Spatial Data Management (3)</td>
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</tr>
</tbody>
</table>

#6 A total of 120-121 credits are required for the degree of which 42 must be upper division.