Undergraduate Academic Board
Agenda

October 26th, 2012
2:00-5:00
ADM 204

I. Roll
( ) Dave Fitzgerald (CBPP) ( ) Vacant (COE) ( ) Christina Stuve (SA) ( ) Adjunct vacancy
( ) Paola Banchero (CAS) ( ) Jeffrey Callahan (CTC) ( ) Francisco Miranda (FS CAS) ( ) USUAA vacancy
( ) Mari Ippolitio (CAS) ( ) Utpal Dutta (SOE) ( ) Alberta Harder (FSAL) Ex-Officio Members:
( ) Barbara Harville(CAS) ( ) Michael Hawfield (KPC) ( ) Soren Orley (FSAL) ( ) Susan Kalina
( ) Len Smiley (CAS) ( ) Kevin Keating (LIB) ( ) FS at large vacancy ( ) Kathrynn Hollis Buchanan (Kodiak) ( ) S&P
( ) Helena Jermalovic (COH) ( ) Joan O’Leary (Mat-su) ( ) Lora Volden
( ) Eileen Weatherby (COH) ( ) Thia Falcone (Adjunct)

II. Approval of the Agenda (pg. 1)

III. Approval of Meeting Summary (pg. 2-4)

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

V. Chair’s Report
A. UAB Chair- Dave Fitzgerald
B. GERC

VI. Program/Course Action Request- Second Readings
Chg Minor, Justice (pg.5) Chg Bachelor of Arts, Justice (pg. 6-12)
Add CIS A490 Current Topics in Management Information Systems (3 cr)(3+0)(pg. 13-16) Chg MEDT A302 Clinical Laboratory Education and Management (4 cr)(4+0)(pg. 17-22)

VII. Program/Course Action Request- First Readings
Chg GEOL A490 Advanced Topics in Geology (Stacked with GEOL A690)
(1-4 cr)(1-4+0)(pg. 23-32)
Chg ACCT A310 Individual Income Tax (3 cr)(3+0)(pg. 33-36)
Add CE A426 Traffic Modeling and Simulation (Stacked with CE A626)(3 cr)(3+0)(pg. 37-44)

VIII. Old Business
IX. New Business
A. Electronic Catalog Presentation (Lora Volden)
B. Statement of Pedagogy

X. Informational Items and Adjournment
I. Roll
(x) Dave Fitzgerald (CBPP)  ( ) Vacant (COE)  (x) Christina Stuive (SA)  ( ) Adjunct vacancy
(x) Paola Banchero (CAS) (e) Jeffrey Callahan (CTC) (x) Francisco Miranda (FS CAS) ( ) USUAA vacancy
(x) Mari Ippolito (CAS) (x) Utpal Dutta (SOE) (x) Alberta Harder (FSAL)  (x) Susan Kalina
(x) Barbara Harville (CAS) (x) Michael Hawfield (KPC) (x) Soren Orley (FSAL)  (x) Lora Volden
(x) Len Smiley (CAS) (x) Kevin Keating (LIB) ( ) FS at large vacancy  (x) Kathrynn Hollis Buchanan (Kodiak) (x) S&P
( ) Helena Jermalovic (COH) (x) Joan O'Leary (Mat-su)  (e) Eileen Weatherby (COH) (x) Thia Falcone (Adjunct)

Ira Ortega attended the meeting for COE.

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

III. Approval of Meeting Summary (pg. 3-5)
Approved

IV. Administrative Report
A. Vice Provost for Undergraduate Academic Affairs Susan Kalina
   Megan Carlson is representing Susan Kalina
   Lab Course Fee taskforce met this week. The committee is still looking anchorage faculty volunteers.
   The academic list with OAA approval dates has been updated

B. University Registrar Lora Volden
   Lindsey Chadwell is the new Assistant Registrar

V. Chair’s Report
A. UAB Chair- Dave Fitzgerald
   Electronic signatures is added to the agenda due to a previous conversation that happened this week
   Discussed CCG guidelines and what information needs to be required

B. GERC
   Approved SOC A488
   Continued to discuss BOR policy and regulation regarding general education

VI. Program/Course Action Request- Second Readings
Add CNT A168 Computer User Support and Help Desk (2)(2+0)(pg. 6-10)
Chg CNT A240 Industry PC Configuration Essentials (2)(1+2)(pg. 11-15)
Chg CNT A241 Administering & Supporting Industry Network Infrastructure (3)(2+2)(pg. 16-20)
Chg CNT A242 Industry Network Directory Configuration (3)(2+2)(pg. 21-25)
Chg CNT A243 Industry Application Infrastructure (3)(2+2)(pg. 26-30)
Add CNT A275 Information Technology Project Management (3)(1+2)(pg. 31-35)
Chg AAS, Computer Systems Technology (pg. 36-45)
All CNT Courses and Program were Unanimously Approved

Add PER A190 Selected Topics in Health, Physical Education & Recreation (1-4 cr)(0-4+0-8)(pg. 46-49)
Unanimously Approved

Add PEP A490 Selected Topics in Health, Physical Education & Recreation (1-6 cr)(0-6+0-18)(pg. 50-53)
Unanimously Approved
Add ECON A211 The Economics of Fish (3)(3+0)(pg. 54-58)

Unanimously Approved
Chg SOC A488 Capstone Seminar (3 cr)(3+0)(pg. 59-64)

VII. Program/Course Action Request- First Readings

- Add CIS A490 Current Topics in Management Information Systems (3 cr)(3+0)(pg. 65-68)
  Accepted for first reading

- Chg MEDT A202 Clinical Chemistry (6 cr)(3+6)(pg. 69-75)
  Waive first reading, approve for second

- Chg MEDT A203 Clinical Microbiology (6 cr)(3+6)(pg. 76-82)
  Waive first reading, approve for second

- Chg MEDT A206 Immunology and Blood Banking (6 cr)(3+6)(pg. 83-89)
  Waive first reading, approve for second

- Chg MEDT A208 Urine and Body Fluid Analysis (3 cr)(2+2)(pg. 90-96)
  Waive first reading, approve for second

- Chg MEDT A250 Cultural Diversity in Health Care (1 cr)(0+0)(pg. 97-99)
  Waive first reading, approve for second

- Chg MEDT A302 Clinical Laboratory Education and Management (4 cr)(4+0)(pg. 100-105)
  Accepted for first reading, going to GERC

- Chg MEDT A303 Advanced Clinical Microbiology (6 cr)(3+6)(pg. 106-110)
  Waive first reading, approve for second

VIII. Old Business

IX. New Business

A. Proposed Modification of Catalog Language Regarding Catalog Year and Course Prerequisites (pg. 111-112)
   Motion to approve the memo.
   1 Opposed
   13 Approved
   Approved

B. Posthumous Degrees (pg. 113-114)
   1 Abstain
   13 Approved
   Approved

C. Summer Add/Drop Deadlines (pg. 115)
   Motion to approve the Summer Add/Drop Deadlines.
   Unanimously Approved
D. Electronic Signatures
   Motion to accept scanned or faxed signed copies of the CAR and PAR as long as signatures up to the Deans level are there and legible and the approved or disapproved boxes are checked.
   Unanimously Approved

X. Informational Items and Adjournment
   A. Pilot Group Discussion
Program/PREFIX Action Request  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Program of Study or PREFIX

<table>
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<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
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<tbody>
<tr>
<td>CH College of Health</td>
<td>AJUS Division of Justice</td>
<td>Justice Center</td>
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2. Complete Program Title/PREFIX

Minor, Justice/ JUST

3. Type of Program

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<th>Undergraduate:</th>
<th>Graduate:</th>
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<tr>
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4. Type of Action:

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

- [ ] Add
- [ ] Change
- [ ] Inactivate

5. Implementation Date (semester/year)

From: Spring/2013 To: 9999

6a. Coordination with Affected Units

Department, School, or College: Legal Studies, Paralegal Studies

Initiator Name (typed): Marny Rivera 9/21/12  
Initiator Signed Initials: _________

6b. Coordination Email submitted to Faculty Listserv (uua-faculty@lists.uaa.alaska.edu)

Date: 2/13/12

6c. Coordination with Library Liaison

Date: 2/20/12

7. Title and Program Description - Please attach the following:

- [x] Cover Memo
- [x] Catalog Copy in Word using the track changes function

8. Justification for Action

Updating the Justice minor to remove a limitation on the number of JUST A490 credits that may be counted toward Justice electives.

Initiator (faculty only)

Marny Rivera
Initiator (TYPE NAME)

[ ] Approved  [ ] Disapproved

Dean/Director of School/College

[ ] Approved  [ ] Disapproved

Undergraduate/Graduate Academic Board Chairperson

[ ] Approved  [ ] Disapproved

Provost or Designee
1a. School or College  
CH College of Health

1b. Division  
AJUS Division of Justice

1c. Department  
Justice Center

2. Complete Program Title/Prefix  
Bachelor of Arts, Justice/ JUST

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

4. Type of Action:  
PROGRAM  
☐ Add  
☒ Change  
☐ Delete  

PREFIX  
☐ Add  
☐ Change  
☐ Inactivate

5. Implementation Date (semester/year)  
From: Spring/2013  To: /9999

6a. Coordination with Affected Units  
Department, School, or College: Legal Studies, Paralegal Studies  
Initiator Name (typed): Ronald Everett  4/20/12  
Initiator Signed Initials: _________

6b. Coordination Email submitted to Faculty Listserv (uaa-faculty@lists.uaa.alaska.edu)  
Date: 2/13/12

6c. Coordination with Library Liaison  
Date: 2/20/12

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 the Justice BA to (1) delete JUST A221 from required core, (2) add two courses to required core (two from JUST A334, JUST A374, and JUST A384), (3) decrease the number of required elective credits by three, (4) remove JUST A110 as a prerequisite for JUST A200 and JUST A201, (5) restructure course numbers and prerequisites, and (6) add admission requirements (JUST A110, JUST A200, and JUST A201 with a minimum grade of D.)

Initiator (faculty only)  
Ronald Everett  
Initiator (TYPE NAME)  

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

☐ Approved  Undergraduate/Graduate Academic  Date  
☐ Disapproved  Board Chairperson

☐ Approved  Provost or Designee  Date  
☐ Disapproved  

☐ Approved  Department Chairperson  Date  
☐ Disapproved

☐ Approved  Curriculum Committee Chairperson  Date  
☐ Disapproved
The UAA Justice Center, established by the Alaska Legislature in 1975, has a mandate to provide statewide justice-related education, research, and service. The Justice Center is an interdisciplinary unit that provides undergraduate, graduate, and professional education; conducts research in the areas of crime, law, and justice; and provides service to government units, justice agencies, and community organizations throughout urban and rural Alaska to promote a safe, healthy, and just society.

In furtherance of its academic mission, the Justice Center offers the following:

- Bachelor of Arts in Justice
- Minor in Justice
- Criminal Justice Emphasis for the Master of Public Administration
- Research Honors in Justice
- Justice Club
- Alpha Phi Sigma National Criminal Justice Honor Society

In addition, the Justice Center also offers the following programs in Legal Studies:

- Bachelor of Arts in Legal Studies
- Minor in Legal Studies
- Associate of Applied Science in Paralegal Studies
- Legal Nurse Consulting Paralegal Undergraduate Certificate
- Post-Baccalaureate Certificate in Paralegal Studies
- Pre-Law Advising for UAA students

Justice faculty have professional research and service obligations beyond classroom teaching. Undergraduate students who major in Justice have opportunities to work with faculty members on Justice Center research and service projects.

Students are encouraged to contact the Justice Center to speak with an academic advisor. More information about programs and advising is available on the Justice Center website at [http://justice.uaa.alaska.edu](http://justice.uaa.alaska.edu).

**JUSTICE RESEARCH HONORS**

The Justice Center recognizes those undergraduate students who develop exceptional social science research skills by awarding them Justice Research Honors. Students majoring in Justice are eligible to graduate with Justice Research Honors upon satisfactory completion of all of the following requirements:

1. Meet the requirements for a Bachelor of Arts degree in Justice.
2. Meet the requirements for membership in Alpha Phi Sigma, the national justice honor society (including, 3.20 GPA in UAA Justice courses, 3.20 overall).
3. Complete the following courses with a grade of B or better (9 credits):
   - JUST A400 Advanced Research Methods in Justice 3
   - JUST A401 Inferential Data Analysis in Justice 3
   - JUST A488 Research Practicum 3
4. Students intending to graduate with Justice Research Honors must notify the Justice Center undergraduate program coordinator, in writing, on or before the date they submit their Application for Graduation.

**BACHELOR OF ARTS, JUSTICE**

The Bachelor of Arts in Justice is an interdisciplinary program that prepares students for engaged citizenship; scholarship; justice careers in private and public organizations; and advanced studies in criminology, law, criminal justice, social research, and public administration. Those graduates with records of high achievement in the Justice undergraduate program are prepared to pursue advanced education in graduate, law, and professional degree programs at the University of Alaska Anchorage and other universities. Graduates who receive a Bachelor of Arts in Justice have the specialized knowledge and skills required for the evaluation, administration and improvement of police, court, and correctional policies and organizations.
PROGRAM STUDENT LEARNING OUTCOMES
Upon completion of this program, graduates will be able to:

1. Explain the essential principles of justice research and evaluate the results of social science research.
2. Assess and critique the different theoretical perspectives in criminology.
3. Evaluate the historical and contemporary philosophies of justice.
4. Describe processes of justice policy development and the requirements of evidence-based policymaking.
5. Synthesize the history and development of the institutions of government forming the sources of American law and the social, economic and cultural forces that influence the development of law.

ADMISSION REQUIREMENTS
1. Complete the Admission to Baccalaureate Programs Requirements in Chapter 7, Academic Standards and Regulations.
2. Complete JUST A110, JUST A200, and JUST A201 with a minimum grade of D.

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 required core courses (21 credits):
   - JUST A110  Introduction to Justice            3
   - JUST A200  Introduction to Research Methods in Justice            3
   - JUST A201  Justice Data Analysis            3
   - JUST/SOC A251  Crime and Delinquency            3
   - JUST A315  Development of Law            3
   - JUST A330  Justice and Society            3
   - JUST A360  Justice Theory and Policy Analysis            3
2. Complete two of the following three courses           6
   - JUST A334 Police & Society (3)
   - JUST A374 The Courts (3)
   - JUST A384 Contemporary Corrections (3)
3. Complete 18 credits of electives in Justice or Legal Studies electives; 18
   12 credits must be upper division
   Note: Legal Studies courses fulfill the Justice elective requirements for the Bachelor of Arts in Justice except where the student has elected a Legal Studies Minor or Major; Legal Studies courses cannot be used (counted twice) to meet both the requirements of the Legal Studies Minor or Major and the Bachelor of Arts in Justice.
   Only 6 credits of JUST A490 may be counted toward the Justice electives required for the Bachelor of Arts in Justice.
4. Complete a university-approved minor in another discipline. Specific requirements for minors are listed in the catalog by school or department. 18-21
5. All Justice majors must take the Justice Exit Examination. There is no minimum score required for graduation.
6. A total of 120 credits is required for the degree, of which 42 credits must be upper division.

MINOR, JUSTICE
Students who wish to complement their studies in another discipline with knowledge of crime, law, and justice may declare a Justice minor.

A total of 18 credits is required for the minor, 9 of which must be upper division.
1. JUST A110  Introduction to Justice            3
2. JUST/SOC A251  Crime and Delinquency            3
3. Complete 9 credits of upper division electives in Justice or Legal Studies* 9
4. Complete 3 credits of electives in Justice or Legal Studies; any level* 3
   * Note: Legal Studies courses fulfill the Justice elective requirements for the Minor in Justice except where the student has elected a Bachelor of Arts or Minor in Legal Studies; Legal Studies courses cannot be used (counted twice) to meet both the requirements of the Minor in Justice and the Bachelor of Arts or Minor in Legal Studies.
FACULTY
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Jason Brandeis, Assistant Professor, JBRANDEIS@uaa.alaska.edu
Sharon Chamard, Associate Professor, SECHAMARD@uaa.alaska.edu
Robert Congdon, Professor Emeritus, AFREC@uaa.alaska.edu
Ronald Everett, Associate Professor, RSEVERETT@uaa.alaska.edu
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Cory Lepage, Assistant Professor, CRLEPAGE@uaa.alaska.edu
Bradley Myrstol, Assistant Professor, BAMYRSTOL@uaa.alaska.edu
Troy Payne, Assistant Professor, TPAYNE9@uaa.alaska.edu
Deborah Periman, Associate Professor, DKPERIMAN@uaa.alaska.edu
Marny Rivera, Program Coordinator/Associate Professor, MRIVERA11@uaa.alaska.edu
Andre Rosay, Director, ABROSAY@uaa.alaska.edu
Nancy Schafer, Professor Emeritus, AHNES@uaa.alaska.edu
JUSTICE

Consortium Library (LIB), Room 213, (907) 786-1810
http://justice.uaa.alaska.edu

The UAA Justice Center, established by the Alaska Legislature in 1975, has a mandate to provide statewide justice-related responsibility for higher education, research, and service. The Justice Center is an interdisciplinary unit that provides undergraduate, graduate, and professional education, conducts research in related to the areas of crime, law, and the administration of justice. The center offers a baccalaureate degree program for students interested in the justice and provides service to government units, justice agencies, and community organizations throughout urban and rural Alaska to promote a safe, healthy, and just society.

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In addition, the Justice Center also offers the following programs in Legal Studies:

- Bachelor of Arts in Legal Studies
- Minor in Legal Studies
- Associate of Applied Science in Paralegal Studies
- Legal Nurse Consultant Undergraduate Certificate is available for qualified students who wish to pursue a paralegal career.
- Post-Baccalaureate Certificate in Paralegal Studies
- Pre-Law Advising for UAA students

Justice faculty have professional research and service obligations beyond classroom teaching. Undergraduate The center is an organized research unit which, at its own initiative or in response to requests from outside the university, conducts research and public education programs. Efforts are made to ensure that all undergraduate students who major in Justice have opportunities to work with faculty members on Justice Center research and service projects.

Students are encouraged to contact the Justice Center to speak with an academic advisor. More information about programs and advising is available on the Justice Center website at http://justice.uaa.alaska.edu.

JUSTICE RESEARCH HONORS

The Justice Center recognizes those undergraduate students who develop exceptional social science research skills by awarding them Justice Research Honors. Students majoring in Justice are eligible to graduate with Justice Research Honors upon satisfactory completion of all of the following requirements:

1. Meet the requirements for a Bachelor of Arts degree in Justice
2. Meet the requirements for membership in Alpha Phi Sigma, the national justice honor society
3. Complete the following courses with a grade of B or better (9 credits):
   - JUST A400 Advanced Research Methods in Justice
   - JUST A401 Inferential Data Analysis in Justice
   - JUST A488 Research Practicum
4. Students intending to graduate with Justice Research Honors must notify the Justice Center undergraduate program coordinator, in writing, on or before the date they submit their Application for Graduation with the Office of the Registrar.

BACHELOR OF ARTSBACHELOR OF ARTS, JUSTICE

The Bachelor of Arts degree in Justice is an interdisciplinary program that prepares students to satisfy the educational prerequisites for engaged citizenship, scholarship, justice careers in private and public organizations, and advanced studies in criminology, law.
criminal justice, social work, administrative, operational, research, and public planning positions related to crime, law and the administration of justice. Those graduates with records of high achievement in the Justice undergraduate program are prepared to pursue advanced education in graduate law, and professional degree programs at the University of Alaska Anchorage and other universities.

Graduates who receive a Bachelor of Arts degree in Justice have both broad educational preparation for productive citizenship and the specialized knowledge and skills required for the evaluation, administration and improvement of police, court, and correctional policies and organizations.

**PROGRAM STUDENT LEARNING OUTCOMES**

Upon completion of this program, graduates will be able to:

1. Explain the essential principles of justice research and evaluate the results of social science research.
2. Assess and critique the different theoretical perspectives in criminology.
3. Evaluate the historical and contemporary philosophies of justice.
4. Describe processes of justice policy development and the requirements of evidence-based policymaking.
5. Synthesize the history and development of the institutions of government forming the sources of American law and the social, economic and cultural forces that influence the development of law.

**ADMISSION REQUIREMENTS**

1. Complete the Admission to Baccalaureate Programs Requirements in Chapter 7, Academic Standards and Regulations.
2. Complete JUST A110, JUST A200, and JUST A201 with a minimum grade of D or better.

**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 required core courses (21 credits):
   - JUST A110 Introduction to Justice 3
   - JUST A200 Introduction to Research Methods in Justice 3
   - JUST A201 Justice Data Analysis 3
   - JUST A321 Justice Organization and Management 3
   - JUST A250 Development of Law 3
   - JUST/SOC A251 Crime and Delinquency 3
   - JUST A315 Development of Law 3
   - JUST A330 Justice and Society 3
   - JUST A360 Justice Theory and Policy Analysis 3
2. Complete two of the following three courses  6
   - JUST A334 Police and Society (3)
   - JUST A374 The Courts (3)
   - JUST A384 Contemporary Corrections (3)
3. Complete 18 credits of upper division Justice electives in  18
   - Justice or Legal Studies electives.

*Paralegal Studies electives: 18
  12 credits must be upper division.

Note: Legal Studies courses fulfill the Justice elective requirements for the Bachelor of Arts in Justice except where the student has elected a Legal Studies Minor or Major. Legal Studies courses cannot be used (counted twice) to meet both the requirements of the Legal Studies Minor or Major and and the Bachelor of Arts in Justice.

** electives: Only 6 credits of JUST A490 may be counted toward the Justice electives required for the Bachelor of Arts in Justice.

4. Complete a university-approved minor in another discipline. Specific requirements for minors are listed in the catalog by school or department.
   - 18-21
5. All Justice majors must take the Justice Exit Examination. There is no minimum score required for graduation.
6. A total of 120 credits is required for the degree, of which 42 credits must be upper division.
Students majoring in another subject who wish to complement their studies in another discipline with knowledge of crime, law, and justice may declare a Justice minor.

A total of 18 credits is required for the minor, 9 of which must be upper division.

1. JUST A110  Introduction to Justice 3
2. JUST/SOC A251  Crime and Delinquency 3
3. Complete 9 credits of upper division Justice electives in Justice or Legal Studies* 9
4. Complete 3 credits of Justice electives in Justice or Legal Studies, any level* 3

* Note: Legal Studies courses cannot be counted as Justice elective requirements. Only 6 credits of JUST A490 may be counted toward the Justice electives required for the Minor in Justice except where the student has elected a Bachelor of Arts or Minor in Legal Studies. Legal Studies courses cannot be used (counted twice) to meet both the requirements of the Minor in Justice and the Bachelor of Arts or Minor in Legal Studies.

FACULTY

John Angell, Professor Emeritus, AHJE@u aa.alaska.edu
Alan Barnes, Professor, ARBARNES@u aa.alaska.edu
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Sharon Chemard, Associate Professor, SCHEMA@u aa.alaska.edu
Robert Connery, Professor Emeritus, ARF@u aa.alaska.edu
Ronald Everett, Associate Professor, RES@u aa.alaska.edu
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Andre Rossy, Director, ARossy@u aa.alaska.edu
Nancy Schaffer, Professor Emeritus, ANHINES@u aa.alaska.edu
Nancy Schaffer, Professor Emeritus, AHINES@u aa.alaska.edu
## Course Action Request

### University of Alaska Anchorage

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

<table>
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<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
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<tbody>
<tr>
<td>CB CBPP</td>
<td>ADBP Division of Business Programs</td>
<td>CIS</td>
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<table>
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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>
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<tr>
<td>CIS</td>
<td>A490</td>
<td>N/A</td>
<td>3</td>
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<tr>
<td>Advanced Topics in Management Information Systems</td>
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<tr>
<td>Advanced Topics in MIS</td>
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<tr>
<td>Abbreviated Title for Transcript (30 character)</td>
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<th>7. Type of Course</th>
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<td>☐ Preparatory/Development</td>
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<td>☐ NG</td>
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</table>

<table>
<thead>
<tr>
<th>11. Implementation Date</th>
</tr>
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<tbody>
<tr>
<td>From: Spring/2013</td>
</tr>
<tr>
<td>To: 9999</td>
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<table>
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<tr>
<th>12. Cross Listed with</th>
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<tbody>
<tr>
<td>N/A</td>
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</table>

<table>
<thead>
<tr>
<th>13a. Impacted Courses or Programs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>List any programs or college requirements that require this course.</td>
</tr>
<tr>
<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>
</tr>
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<tr>
<th>Impacted Program/Course</th>
<th>Catalog Page(s) Impacted</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
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<td>2.</td>
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<td>3.</td>
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</table>

Initiator Name (typed): Alpana Desai

<table>
<thead>
<tr>
<th>Initiator Signed Initials:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
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</table>

13b. Coordination Email: Date: 10/5/12

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

13c. Coordination with Library Liaison: Date: 10/5/12

14. General Education Requirement

Mark appropriate box:

<table>
<thead>
<tr>
<th>Oral Communication</th>
<th>Written Communication</th>
<th>Social Sciences</th>
<th>Quantitative Skills</th>
<th>Humanities</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

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

Study of advanced current issues, techniques, and trends in Management Information Systems (MIS). Students will be required to conduct research. Special note: May be repeated with change of subtitle/topic. Maximum of 9 elective credits may be used for the BBA MIS degree. Check course schedule for specific titles being offered. |

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

| CIS A210 with a minimum grade of C |

16b. Test Score(s)

| N/A |

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

| N/A |

16d. Other Restriction(s)

| ☐ College |
| ☐ Major |
| ☐ Class |
| ☐ Level |

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

| College of Business and Public Policy majors must be admitted to upper-division standing. |

17. ☑ Mark if course has fees Standard CBPP computer lab fee

18. ☑ Mark if course is a selected topic course

19. Justification for Action

Update the CIS curriculum to better meet the needs of the industry and students.

Initiator Name (faculty only): Alpana Desai

Initiator (TYPE NAME): ____________________________

Initiator Signed Initials: ________________________ Date: __________________

[Approved]

Dean/Director of School/College Date: __________________

[Disapproved]

[Approved]

Undergraduate/Graduate Academic Chairperson Date: __________________

[Disapproved]

[Approved]

Board Chairperson Date: __________________

[Disapproved]

Provost or Designee Date: __________________
I. Date Initiated
   October 23, 2012

II. Course Information
   College/School: College of Business and Public Policy
   Department: Computer Information Systems
   Program: Bachelor of Business Administration (BBA), Management Information Systems (MIS)
   Course Title: Advanced Topics in Management Information Systems
   Course Number: A490
   Credits: 3
   Contact Hours: 3 per week x 15 weeks = 45 hours
                 0 lab hours
                 6 hours outside of class per week x 15 weeks = 90 hours
   Grading Basis: A - F
   Course Description: Study of advanced current issues, techniques, and trends in Management Information Systems (MIS). Students will be required to conduct research. Special note: May be repeated with change of subtitle/topic. Maximum of 9 elective credits may be used for the BBA MIS degree. Check course schedule for specific titles being offered.
   Course Prerequisites: CIS A210 with a minimum grade of C.
   Registration Restrictions: CBPP majors must be admitted to upper-division standing.
   Fees: Standard CBPP computer lab fee

III. Course Activities
   Because this is a “selected topics” course, the exact focus of the course may vary depending on the topic addressed. However, in general, the course will involve a combination of:
   A. Discussion
   B. Lecture
   C. Guest speakers
   D. Case studies

IV. Course Level Justification
   This course covers current and advanced management information systems topics and builds upon knowledge gained in other CIS courses.
V. Outline

Course outline varies with topics.

Example course (Information Security Assurance)
A. Introduction to Information Security
B. The Need for Security
C. Legal, Ethical, and Professional Issues in Information Security
D. Risk Management: Identifying and Assessing Risk
E. Risk Management: Assessing and Controlling Risk
F. Blueprint for Security
G. Planning for Continuity
H. Security Technology
I. Physical Security
J. Implementing Security
K. Security and Personnel
L. Information Security Maintenance

VI. Suggested Texts

Textbooks will vary with topic.

Example course (Information Security Assurance)

VII. Bibliography

References will vary with topic.

Example course (Information Security Assurance)
VIII. Instructional Goals and Student Learning Outcomes

A. Instructional Goals.
The instructor will:

1. Demonstrate the integration of security, software, people, data, and telecommunications components in information systems (IS).

2. Engage students in classroom debates on the implications of emerging global threats to IS data.

3. Empower students to be able to perform customer investigation of security faults and protection of IS resources.

4. Guide students in developing analysis and database tools to support quantitative decision making related to security risk assessment and use of forensic tools to solve security problems.

B. Student Learning Outcomes.
Students will be able to:

<table>
<thead>
<tr>
<th>Students will be able to:</th>
<th>Assessment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Apply the ethical legislative and regulatory issues of information security in shaping a global digital economy.</td>
<td>Homework, Quizzes, Exams</td>
</tr>
<tr>
<td>2. Research and investigate the role of computer forensics.</td>
<td>Research paper</td>
</tr>
<tr>
<td>3. Create suitable information assurance policies for a variety of systems.</td>
<td>Homework</td>
</tr>
<tr>
<td>4. Explain the basic theories and principles of computer security.</td>
<td>Homework, Exams</td>
</tr>
<tr>
<td>5. Analyze information security practices across a variety of business environments.</td>
<td>Homework, Quizzes</td>
</tr>
<tr>
<td>6. Describe the issues and tasks surrounding the implementation and operation of an information assurance program.</td>
<td>Homework, Quizzes</td>
</tr>
<tr>
<td>7. Define various information security processes and discuss their tangible and intangible benefits.</td>
<td>Homework, Quizzes, Exams</td>
</tr>
<tr>
<td>8. Describe the various security technologies including: firewalls, dial-up protection, access control.</td>
<td>Homework, Quizzes, Exams</td>
</tr>
<tr>
<td>9. Describe the various concepts of cryptography including types of ciphers and cryptographic algorithms.</td>
<td>In-class activities, Quizzes, Exams</td>
</tr>
<tr>
<td>10. Research and design security measures.</td>
<td>Homework, Research paper</td>
</tr>
<tr>
<td>11. Develop an information assurance plan.</td>
<td>Project</td>
</tr>
</tbody>
</table>
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>AHLS Division of Health Safety</td>
<td>Medical Laboratory Science</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>
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</thead>
<tbody>
<tr>
<td>MEDT</td>
<td>A302</td>
<td>N/A</td>
<td>4</td>
<td>(4+0)</td>
</tr>
</tbody>
</table>

6. Complete Course Title
Clinical Laboratory Education and Management
Clinical Lab Ed and Management
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 Number
- [ ] Contact Hours
- [ ] Repeat Status
- [ ] Cross-Listed/Stacked
- [ ] Course Description
- [ ] Course Prerequisites
- [ ] Test Score Prerequisites
- [ ] Co-requisites
- [ ] Registration Restrictions
- [ ] Other Restrictions
- [ ] Class
- [ ] Level
- [ ] College
- [ ] Major
- [ ] Other Outcomes and Outline (please specify)

9. Repeat Status No: [ ] # of Repeats
Max Credits
- [ ] A-F
- [ ] P/NP
- [ ] NG

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

11. Implementation Date
   - [ ] semester/year
   - [ ] Fall/2013
   - [ ] 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.

13b. Coordination Email
   Date: 09/05/12
   submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
   Date: 09/05/12

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 educational and management principles and tools applicable to laboratory medicine and allied health science professions. Provides basic skills necessary to function in a technologically dynamic environment. Topics include the educational process and teaching methods and basic managerial subjects including human resources and financial management. The course is designed for students of an educational or working background in the clinical laboratory or other healthcare field.

16a. Course Prerequisite(s) (list prefix and number)
None

16b. Test Score(s)
N/A

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

16d. Other Restriction(s)
- [ ] College
- [ ] Major
- [ ] Class
- [ ] Level
- [ ] Registration Restriction(s) (non-codable)
   Completion of GER Tier 1 courses, junior standing and departmental approval.

17. [ ] Mark if course has fees

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

19. Justification for Action
Curriculum is being updated for currency and forms are being edited to reflect organizational changes.

Initiator (faculty only)
Heidi Mannion
Initiator (TYPE NAME)

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

17
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<tr>
<th>Impacted Program or Course</th>
<th>Type of Impact (course or program)</th>
<th>Catalog Page</th>
<th>Type/Date of Notification</th>
<th>Chair/Coordinator Contacted</th>
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<tbody>
<tr>
<td>Integrative Capstone</td>
<td>Course Impacts</td>
<td>87</td>
<td>9/5/2012</td>
<td>Heidi Mannion</td>
</tr>
<tr>
<td>BS Medical Lab Science</td>
<td>Program Impacts</td>
<td>171</td>
<td>9/5/2012</td>
<td>Heidi Mannion</td>
</tr>
<tr>
<td>MEDT A402</td>
<td>Prerequisite</td>
<td>451</td>
<td>9/5/2012</td>
<td>Heidi Mannion</td>
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<tr>
<td>MEDT A495</td>
<td>Prerequisite</td>
<td>451</td>
<td>9/5/2012</td>
<td>Heidi Mannion</td>
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</table>
University of Alaska Anchorage
College of Health
Course Content Guide

Department: MEDT: Medical Laboratory Science  Date:  August 30, 2012
Course Number: MEDT A302
Course Title: Clinical Laboratory Education and Management
Credits: 4 credits

I. Course Description
Introduces educational and management principles and tools applicable to laboratory medicine and allied health science professions. Provides basic skills necessary to function in a technologically dynamic environment. Topics include the educational process and teaching methods and basic managerial subjects including human resources and financial management. The course is designed for students with an educational or working background in the clinical laboratory or other healthcare field.

II. Course Design
A. Integrates knowledge and skills acquired in GER and major requirements for the Bachelor of Science in Medical Laboratory Science (BSMLS) with practical applications of education and management in laboratory medicine and other allied health science professions.
B. Total time of student involvement- 180 hours.
   1) Lecture- 4 hours per week for a total of 60 hours
   2) Outside work expected- 120 hours
C. Required for a BSMLS.
D. No special fees.
E. Course level justification: Students draw on their acquired knowledge of health care systems which are taught in 200-level MEDT courses and other allied health courses.

III. Course Activities
Course is conducted in a lecture format and includes class discussion, case studies, role-playing, and individual and group projects.

IV. Course Prerequisites
A. None
B. Registration Restrictions- Completion of Tier 1 GER courses, junior standing and departmental approval.

V. Course Evaluation
A. Grading A-F.
B. Grades are based on written or computerized exams, core abilities, case studies, and individual and group projects.
C. Specific grading criteria will be discussed in the beginning of the course.
VI. **Course Outline**

1.0 Introduction to the Education Process
   1.1 Roles of the Student and Teacher
   1.2 Cognitive, Psychomotor and Affective Domains

2.0 Components of an Instructional Unit
   2.1 Construction of Goals
   2.2 Creating, Classifying, and Evaluating Objectives
   2.3 Teaching Strategies and Utilization of Learning Activities
   2.4 Test Development
   2.5 Evaluation of Performance

3.0 Laws Pertaining to Post-secondary Education

4.0 Roles of the Laboratory Manager
   4.1 Principles of Leadership
   4.2 Management Functions Overview

5.0 Managing Resources
   5.1 Human Resource Management
   5.2 Financial Management
   5.3 Process Control and Quality Assessment and Quality Assurance

6.0 Laws and Regulations

7.0 Professionalism and Ethics in Healthcare Organizations

VII. **Recommended Text**


VIII. **References**

*Body of Knowledge for Medical Laboratory Management*; on-line at Clinical Laboratory Management Association. [www.clma.org](http://www.clma.org); July 2011.


Current on-line resources for management functions, leadership principles and laws and regulations:

Clinical Laboratory Management Association. [www.clma.org](http://www.clma.org)

American Society for Clinical Pathologists. [www.ascp.org](http://www.ascp.org)

College of American Pathologists. [www.cap.org](http://www.cap.org)

The Joint Commission. [www.jointcommission.org](http://www.jointcommission.org)

Occupational Safety & Health Administration. [www.osha.gov](http://www.osha.gov)


Institute for Healthcare Improvement. [www.ihi.org](http://www.ihi.org)

U.S. Food and Drug Administration. [www.fda.gov](http://www.fda.gov)
**IX. Instructional Goals, Student Learning Outcomes and Assessment Methods**

**A. Instructional Goals:**
1. Facilitate integration of knowledge and skills gained in written and oral communication and statistical GER courses with education principles to develop an effective instructional module.
2. Empower students to incorporate principles of effective communication in the professional context.
3. Provide healthcare management situations for analysis and application of appropriate intellectual standards and critical thinking techniques to problem resolution.
4. Introduce quantitative techniques for healthcare resource management.

**B. Student Learning Outcomes and Assessment Methods:**

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Methods</th>
<th>Capstone Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>After successful completion of this course, students will be able to:</td>
<td>To be assessed by one or more of the following:</td>
<td></td>
</tr>
</tbody>
</table>
| 1. Develop, deliver, and assess an effective instructional module including necessary aspects of the educational process. | Written instructional module  
Presentation of instructional module  
Statistical evaluation of learning  
Exams | Knowledge Integration  
Effective Communication  
Quantitative Perspectives |
| 2. Produce effective, clearly written documents for both personal and institutional applications using computer-based office programs. | Professional Portfolio to include a resume, letter of introduction and other appropriate documents  
Technical writing examples appropriate to the profession | Knowledge Integration  
Effective Communication |
| 3. Evaluate and provide possible resolutions to a variety of management issues typically encountered in healthcare organizations. | Case studies in human resource management  
Exams | Effective Communication  
Critical Thinking |
| 4. Recognize and demonstrate suitable cost/revenue principles for healthcare organizations. | Class project: Implementing a Laboratory Service  
Homework assignments  
Class exercises and discussions  
Exams | Knowledge Integration  
Quantitative Perspectives |
1a. School or College
   AS CAS

1b. Division
   AMSC Division of Math Science

1c. Department
   Geological Sciences

2. Course Prefix
   GEOL

3. Course Number
   A490

4. Previous Course Prefix & Number
   none

5a. Credits/CEUs
   1-4

5b. Contact Hours
   (Lecture + Lab) (1-4+0)

6. Complete Course Title
   Advanced Topics in Geology

   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
   ☐ Credits
   ☐ Title
   ☐ Grading Basis
   ☐ Repeat Status
   ☐ Contact Hours
   ☐ Cross-Listed/Stacked
   ☐ Course Description
   ☐ Co-requisites
   ☐ Test Score Prerequisites
   ☐ Registration Restrictions
   ☐ Other Restrictions
     ☐ Class
     ☐ Level
     ☐ College
     ☐ Major
   ☑ Other CCG (please specify)

9. Repeat Status Yes ☑ # of Repeats 2 ☑ Max Credits 12

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

11. Implementation Date
    Semester/year
    From: Spring/2013
    To: /

12. ☐ Cross Listed with
    ☐ Stacked with GEOL A690

   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>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

   Initiator Name (typed): Kristine J Crossen
   Initiator Signed Initials: ____________
   Date: __________________

   13b. Coordination Email
   Date: 10-8-12
   submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

   13c. Coordination with Library Liaison
   Date: 10-8-12
   Signature

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)
   Detailed study of selected topics in geology. Special note: May be repeated twice for a maximum of 12 credits with change of topic.

16a. Course Prerequisite(s) (list prefix and number)
   GEOL A221

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
   Designed as 400-level undergraduate course. Course takes advantage of the expertise of resident faculty, visiting faculty and community professionals. Current issues and topics not normally taught on a scheduled basis will be offered under this heading.

   ________________________________  __________________
   Initiator (faculty only) Date

   ________________________________  __________________
   Kristine J Crossen Initiator (TYPE NAME) Date

   ________________________________  __________________
   Dean/Director of School/College Date

   ________________________________  __________________
   Undergraduate/Graduate Academic Date
   Board Chairperson

   ________________________________  __________________
   Provost or Designee Date
I. Date of Initiation: Spring 2013

II. Course Information:
   A. College or School: College of Arts and Sciences
   B. Course Title: Advanced Topics in Geology
   C. Course Subject/Number: GEOL A490
   D. Credit Hours: 1-4
   E. Contact time: (1-4 + 0)
   F. Grading Information: A-F
   G. Course Description: Detailed study of selected topics in geology. Special note: May be repeated twice for a maximum of 12 credits with change of topic.
   H. Status of course relative to degree program: May be used as upper-division elective to satisfy Geological Sciences major or minor.
   I. Course Attributes: Applies toward upper division requirement for Geological Sciences major or minor.
   J. Lab fees: yes
   K. Coordination: UAA faculty list serve
   L. Course Prerequisites: GEOL A221

III. Instructional Goals and Student Learning Outcomes:
   A. Instructional Goals. The instructor will:
      1) Convey the geological concepts to the study of the particular topic.
      2) Demonstrate the applications of the selected topic to solving geologic problems and problems related to environmental sciences or other areas of interest.
      3) Guide students to utilize their problem solving skills to understand both the principles and applications of the selected geologic topic.

   B. Student Learning Outcomes. The students will:
      1) Apply the principles of the selected topic to geologic, environmental, and other appropriate fields of study. Assessment: exams.
      2) Analyze recent literature and examples of modern applications of geological studies. Assessment: literature reviews.
      3) Develop research skills by participating in original research projects with their peers. Assessment: professional presentation.
IV. Course Activities

The course consists of lectures, discussions, and small group collaboration facilitated by the instructor.

V. Methods of Assessment:

Students will be evaluated based on homework assignments, exams, presentations, reports, and analysis, discussion, and synthesis of professional literature and the design and completion of research projects. Grades will be determined according to the syllabus of the individual instructor.

VI. Course Level Justification

Designed for Geological Science majors as an elective undergraduate course comparable to 400-level offerings at other universities. Designed to provide flexibility to offer and teach innovative senior-level lecture courses on a developmental basis. Such courses are essential to the student’s ability to succeed and integrate content with other 400-level courses in geological sciences.

VII. Topical Course Outline

Course outline will vary by topics selected.

Example from existing course - GEOL A465 - Isotope Geochemistry

1. Law of Radioactivity
2. Radioactive Decay Modes
3. Isotope geochronometers
4. Methods of Dating
5. Applications of Radioactive Isotopes to Environmental Problems
6. Principles of stable isotope geochemistry
7. Isotope fractionation
8. Equilibrium effects
9. Kinetic effects
10. Biological fractionation
11. Trace metal isotopes
12. Isotopes of other elements
VIII. Suggested Text(s)

Texts will vary depending on the topic of the course.

**Example from Isotope Geochemistry above:**


IX. Bibliography

References will vary depending on the selected topic.

**Example from Isotope Geochemistry above.**


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

**Course Action Request**

**University of Alaska Anchorage**

#### 1a. School or College

- **AS CAS**

#### 1b. Division

- **AMSC Division of Math Science**

#### 1c. Department

- **Geological Sciences**

#### 2. Course Prefix

- **GEOL**

#### 3. Course Number

- **A690**

#### 4. Previous Course Prefix & Number

- **none**

#### 5a. Credits/CEUs

- **1-4**

#### 5b. Contact Hours

- **(Lecture + Lab) (1-4+0)**

#### 6. Complete Course Title

- **Graduate Topics in Geology**

#### 7. Type of Course

- **Academic**

#### 8. Type of Action

- **Add**

#### 9. Repeat Status

- **Yes**
- **# of Repeats**: 2
- **Max Credits**: 12

#### 10. Grading Basis

- **A-F**
- **P/NP**
- **NG**

#### 11. Implementation Date

- **From: Spring/2013**
- **To: /**

#### 12. Cross Listed

- **with GEOL A490**

#### 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)]

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

**Initiator Signed Initials**: 

**Date:** 

#### 13b. Coordination Email

- **Date: 10-8-12**
- **To:** 

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

#### 13c. Coordination with Library Liaison

- **Date: 10-8-12**

#### 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)**

- **Intensive study of narrowly defined topic in geology with emphasis on current problems. Independent research project required.**

- **Special note:** May be repeated twice for a maximum of 12 credits with change of topic.

- **Designed as 600-level graduate course requiring independent research. Course takes advantage of the expertise of resident faculty, visiting faculty and community professionals. Current issues and topics not normally taught on a scheduled basis will be offered under this heading.**

#### 16. Course Prerequisite(s)

- **Graduate status**

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

- **Graduate Standing**

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

- **(non-codable)**

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

- **College**
- **Major**
- **Class**
- **Level**

#### 17. Mark if course has fees

- **Mark if course is a selected topic course**

#### 19. Justification for Action

- **Designed as 600-level graduate course requiring independent research. Course takes advantage of the expertise of resident faculty, visiting faculty and community professionals. Current issues and topics not normally taught on a scheduled basis will be offered under this heading.**

**Initiator (faculty only)**

**Date**

**Initiator (TYPE NAME)**

**Date**

**Approved**

**Disapproved**

**Dean/Director of School/College**

**Approved**

**Disapproved**

**Undergraduate/Graduate Academic**

**Approved**

**Disapproved**

**Board Chairperson**

**Approved**

**Disapproved**

**Provost or Designee**

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

GEOL A690
Graduate Topics in Geology

I. Date of Initiation: Spring 2013

II. Course Information:
   A. College or School: College of Arts and Sciences
   B. Course Title: Graduate Topics in Geology
   C. Course Subject/Number: GEOL A690
   D. Credit Hours: 1-4
   E. Contact time: (1-4 + 0)
   F. Grading Information: A-F
   G. Course Description: Intensive study of narrowly defined topic in geology with
      emphasis on current problems. Independent research project required. Special
      note: May be repeated twice for a maximum of 12 credits with change of topic.
   H. Status of course relative to degree program: Graduate level course to serve
      students in interdisciplinary studies, the AEST joint CAS/SOE master’s program,
      and other M.S. degree programs.
   I. Course Attributes: Applies toward graduate level degree programs in
      interdisciplinary studies, AEST and other M.S. programs.
   J. Lab fees: yes
   K. Coordination: UAA faculty list serve
   L. Registration restrictions: Graduate standing

III. Instructional Goals and Student Learning Outcomes:
   A. Instructional Goals. The instructor will:
      1) Convey the geological concepts to the study of the particular topic.
      2) Demonstrate the applications of the selected topic to solving geologic
         problems and problems related to environmental sciences or other areas of
         interest.
      3) Guide students to utilize their problem solving skills to understand both
         the principles and applications of the selected geologic topic.
      4) Guide students in choosing a research topic and completing it in a
         professional manner.

   B. Student Learning Outcomes. The students will:
      1) Apply the principles of the selected topic to geologic, environmental, and
         other appropriate fields of study. Assessment: exams.
      2) Analyze recent literature and examples of modern applications of
         geological studies. Assessment: literature reviews and discussions.
3) Demonstrate research skills by participating in original research projects. Assessment: presentations and written papers.
4) Produce a professional quality presentation and a professional quality report at the conclusion of an individual research project. Improve their critical thinking skills through the analysis, discussion and synthesis of relevant professional literature. Assessment: professional quality presentations and written reports.

IV. Course Activities

The course consists of lectures, discussions, and small group collaboration facilitated by the instructor. Each student will initiate and complete a research project under the direction of the instructor.

VI Methods of Assessment:

Students will be evaluated based on homework assignments, exams, presentations, reports, and analysis, discussion, and synthesis of professional literature and the design and completion of professional quality research projects. Grades will be determined according to the syllabus of the individual instructor.

VI. Course Level Justification

Designed to be used as graduate level course to serve students in interdisciplinary studies, the AEST joint CAS/SOE master’s program, and other M.S. degree programs. Independent research, professional quality presentations and written reports required.

VII. Topical Course Outline

Course outline will vary by topics selected.

Example from existing course - GEOL A665 - Isotope Geochemistry

1. Law of Radioactivity
2. Radioactive Decay Modes
3. Isotope geochronometers
4. Methods of Dating
5. Applications of Radioactive Isotopes to Environmental Problems
6. Principles of stable isotope geochemistry
7. Isotope fractionation
8. Equilibrium effects
9. Kinetic effects
10. Biological fractionation
11. Trace metal isotopes
12. Isotopes of other elements

VII. Suggested Text(s)

Texts will vary depending on the topic of the course.

Example from Isotope Geochemistry above:


IX. Bibliography

References will vary depending on the selected topic.

Example from Isotope Geochemistry above.


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

### Course Action Request

**University of Alaska Anchorage**

**Initiator:** Dave Mason  
**Initiator Signed Initials:** _______

**Date:** ________________  
**Principal Coordinator Contacted:** Pat Fort  
**Date:** ________________  
**Chair/Coordinator Contacted:** Pat Fort  
**Date:** ________________

**Date of Coordination:** 09/21/2012  
**Cross-Listed Coordination Signature:**

**Initiator Name (typed):** Dave Mason  
**Initiator Signed Initials:** _______

### General Education Requirement

**Mark appropriate box:**

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

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

A study of the federal income tax law as it applies to individuals, sole proprietors, and property transactions. Emphasis is on research, theory, application, and tax planning.

### Impacted Courses or Programs:

List any programs or college requirements that require this course.

<table>
<thead>
<tr>
<th>Course Prefix</th>
<th>Course Number</th>
<th>Credits/CEU</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT A310</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Course Action Request Form

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. School or College</td>
<td>CB CBPP</td>
</tr>
<tr>
<td>1b. Division</td>
<td>ADBP Division of Business Programs</td>
</tr>
<tr>
<td>1c. Department</td>
<td>ACCT</td>
</tr>
<tr>
<td>2. Course Prefix</td>
<td>ACCT</td>
</tr>
<tr>
<td>3. Course Number</td>
<td>A310</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>
<tr>
<td>6. Complete Course Title</td>
<td>Individual Income Tax</td>
</tr>
<tr>
<td>7. Type of Course</td>
<td>Academic</td>
</tr>
<tr>
<td>8. Type of Action</td>
<td>Add</td>
</tr>
<tr>
<td>9. Repeat Status No</td>
<td>A-F</td>
</tr>
<tr>
<td>10. Grading Basis</td>
<td>A-F</td>
</tr>
<tr>
<td>11. Implementation Date</td>
<td>From: Fall/2013 To: /9999</td>
</tr>
<tr>
<td>12. Cross Listed with</td>
<td>Stacked</td>
</tr>
<tr>
<td>13a. Impacted Courses or Programs</td>
<td></td>
</tr>
</tbody>
</table>

### Course Prerequisites

- College
- Major
- Class
- Level

### Co-requisites

- Registration Restrictions

### Other Restrictions

- Co-requisites

### Co-requisite(s) (Contact Hours)

- ACCT A301 with a minimum grade of C

### Registration Restriction(s)

- College of Business and Public Policy majors must be admitted to upper-division standing.

### Registration Restriction(s) (non-codable)

- College of Business and Public Policy majors must be admitted to upper-division standing.

### Test Score(s)

- Test Score Prerequisites

### Co-requisite(s) (Contact Hours)

- ACCT A301 with a minimum grade of C

### Repeat Status

- No

### Course Policy

- Standard CBPP computer lab fee

### Justification for Action

Change title and replace (ACCT A202 and ACCT A216) with ACCT A301 as a prerequisite to more adequately prepare students for the rigor of this course. Updated CCG.

### Approval

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>13b. Coordination Email</td>
<td>10/03/2012</td>
</tr>
<tr>
<td>13c. Coordination with Library Liaison</td>
<td>10/03/2012</td>
</tr>
<tr>
<td>14. General Education Requirement</td>
<td></td>
</tr>
</tbody>
</table>

### Curriculum Committee Chairperson

- Date: ________________  

### Board Chairperson

- Date: ________________  

### Provost or Designee

- Date: ________________  

### Dean/Director of School/College

- Date: ________________  

### Undergraduate/Graduate Academic

- Date: ________________  

### Department Chairperson

- Date: ________________  

### Provost or Designee

- Date: ________________  

### Other Update CCG (please specify)

- **Mark if course has fees**

- **Mark if course is a selected topic course**

### Mark if course has fees

- Standard CBPP computer lab fee

### Mark if course is a selected topic course

- ACCT A301 with a minimum grade of C

### Change title and replace

- (ACCT A202 and ACCT A216) with ACCT A301 as a prerequisite to more adequately prepare students for the rigor of this course.
I. Date Initiated  
October 5, 2012

II. Course Information
College/School: College of Business and Public Policy  
Department: Accounting  
Program: Bachelor of Business Administration, Accounting  
Course Title: Individual Income Tax  
Course Number: ACCT A310  
Credits: 3  
Contact Hours: 3 per week x 15 weeks = 45 hours  
0 lab hours  
6 to 9 hours outside of class per week x 15 weeks = 90 to 135 hours  
Grading Basis: A – F  
Course Description: A study of the federal income tax law as it applies to individuals, sole proprietors, and property transactions. Emphasis is on research, theory, application, and tax planning.  
Course Prerequisites: ACCT A301 with minimum grade of C  
Registration Restrictions: College of Business and Public Policy majors must be admitted to upper-division standing.  
Fees: Standard CBPP computer lab fee.

III. Course Activities
A. Discussion  
B. Lecture  
C. Homework  
D. In-class projects  
E. In-class training on the use of computerized research tools  
F. Research projects  
G. Tax return projects

IV. Course Level Justification
The course requires substantial knowledge of accounting information gained in ACCT A301, Intermediate Accounting I. The national standard for this course is the 300-level.
Outline

A. Introduction and Basic Tax Model
B. Tax Research
C. Gross Income
D. Deductions and Losses
   1. Business expenses
   2. Depreciation and depletion
   3. Employee expenses
   4. Itemized deductions
   5. Passive activity losses
E. Alternative Minimum Tax
F. Property Transactions
   1. Gain/loss determination
   2. Non-taxable exchanges
   3. Capital gains and losses
   4. Sec 1231 and 1245

V. Suggested Texts

(Note: tax textbooks have a new edition each academic year and the current year text is the text we use each year. For example: for the 2012-2013 academic year we are using the 2013 edition.)


VI. Bibliography

Required texts are supplemented with current readings, primarily from the Commerce Clearing House (CCH) Intelliconnect Tax Research Network.

VII. Instructional Goals and Student Learning Outcomes

<table>
<thead>
<tr>
<th align="left">A. Instructional Goals.</th>
</tr>
</thead>
<tbody>
<tr>
<td align="left">The instructor will:</td>
</tr>
<tr>
<td align="left">1. Discuss the US Federal tax system including the major types of federal taxes, the administration of the tax law, and the role of the tax adviser and the taxpayer in the system.</td>
</tr>
<tr>
<td align="left">2. Introduce the student to the role of tax research in the Federal income tax system, the sources of tax law, and the application of research techniques to tax problems and tax planning.</td>
</tr>
<tr>
<td align="left">3. Assist the student in developing a working knowledge of the US Federal tax system as it applies to individuals, sole proprietors, and property transactions.</td>
</tr>
</tbody>
</table>
4. Provide students with opportunities to apply their knowledge of the US Federal tax system through the preparation of individual income tax returns.

<table>
<thead>
<tr>
<th>B. Student Learning Outcomes. Students will be able to:</th>
<th>Assessment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Explain the U.S. Federal Income Tax System including the major types of federal taxes, the administration of the tax law, and the role of the tax adviser and the taxpayer in the system</td>
<td>Exams</td>
</tr>
<tr>
<td>2. Explain the role of tax research in the Federal income tax system, and use the sources of tax law, and the application of research techniques to solve tax problems</td>
<td>Exams, research projects, and tax return projects</td>
</tr>
<tr>
<td>3. Develop a working knowledge of the US Federal tax system as it applies to individuals, sole proprietors, and property transactions</td>
<td>Exams</td>
</tr>
<tr>
<td>4. Apply their knowledge of the US Federal tax system to the preparation of individual income tax returns</td>
<td>Tax return projects</td>
</tr>
</tbody>
</table>
**Course Action Request**

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

1a. School or College
EN SOENGR

1b. Division
No Division Code

1c. Department
CE

2. Course Prefix
CE

3. Course Number
A426

4. Previous Course Prefix & Number
N/A

5a. Credits/CEUs
3.0

5b. Contact Hours
(3+0)

6. Complete Course Title
Traffic Modeling and Simulation

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
☐ Course Number  ☐ Contact Hours  ☐ Repeat Status  ☐ Cross-Listed/Stacked  ☐ Course Prerequisites  ☐ Co-requisites  ☐ Registration Restrictions
☐ Class  ☐ Level  ☐ College  ☐ Major  ☐ Other (please specify)

9. Repeat Status choose one  # of Repeats  Max Credits

10. Grading Basis
☒ A-F  ☐ P/NP  ☐ NG

11. Implementation Date
From:  Spring/2013  To:  9999/9999

12.  ☐ Cross Listed with
☒ Stacked with CE A626

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.

13b. Coordination Email
Date: 10/09/2012
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
Date: 10/09/2012

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 concepts of traffic flow simulation, modeling of driver behavior, and application of traffic simulation in Intelligent Transportation Systems (ITS).

16a. Course Prerequisite(s) (list prefix and number)
[CE A402 and ES A302] with a 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
Increases the available technical electives for civil engineering students. Not offered by other departments.

Initiator Name (typed): Ghulam H Bham  Initiator Signed Initials: _________  Date: __________________

13b. Coordination Email
Date: 10/09/2012
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
Date: 10/09/2012

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 concepts of traffic flow simulation, modeling of driver behavior, and application of traffic simulation in Intelligent Transportation Systems (ITS).

16a. Course Prerequisite(s) (list prefix and number)
[CE A402 and ES A302] with a minimum grade of C

16b. Test Score(s)

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

16d. Other 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
Increases the available technical electives for civil engineering students. Not offered by other departments.

Initiator (faculty only)  Date
Ghulam H. Bham

Initiator (TYPE NAME)

Approved
Disapproved

Dean/Director of School/College  Date
I. Initiation Date: October 9, 2012

II. Course Information
A. College: School of Engineering
B. Course Title: Traffic Modeling and Simulation
C. Course Subject/Number: CE A426
D. Credit Hours: 3.0
E. Contact: 3+0
F. Grading Information: A-F
G. Course Description: Introduces concepts of traffic flow simulation, modeling of driver behavior, and application of traffic simulation in Intelligent Transportation Systems (ITS).

Special Note: Stacked with CE A626

H. Status of course relative to degree or certificate program:
   Technical elective, BS program in Civil Engineering
I. Lab Fees: No
J. Coordination: UAA/SOE/CE faculty list serves
K. Course Prerequisites: [CE A402 and ES A302] with a minimum grade of C
L. Registration Restrictions: None

III. Course Activities
Course activities will be composed of demonstration, lectures and discussion by instructor. Instructor will provide regular homework assignments, a project, review of high quality technical papers and self-study materials. The instructor will also train students in related traffic simulation software. The students’ performance will be assessed based on homework, a final examination, project assignments that will lead to a detailed project report, and technical presentation on the project assigned.

IV. Evaluation
Evaluation procedures are at the discretion of the instructor and will be discussed during the first class in the semester. Students will be evaluated on a semester long class project, homework assignments, presentations, technical skills, attendance and participation in class activities. Project evaluation will generally include quality of content, problem solving, and amount of effort. It is understood that progress will vary with individual students and is dependent upon skills, expertise, creativity, and/or amount of time devoted to each assignment.
V. Course Level Justification
This course is offered as a technical elective in transportation engineering. The course builds on material covered in CE A402, Transportation Engineering, and CE A423, Traffic Engineering.

VI. Course Outline
- Fundamentals of system simulation
  - Define systems, models, simulation models
  - Define types of simulation models
- Building simulation models
  - Components of a simulation model
  - Steps in a simulation model
- Traffic flow simulation approaches
  - Analytical versus simulation
  - Discrete versus continuous
  - Macroscopic, mesoscopic, microscopic
- Traffic flow simulation software
  - PTV-America, McTrans, Transport Simulation System
- Review of probability and statistics
  - Random variables and their properties
  - Simulation output data and stochastic processes
  - Estimation of means and variances
  - Confidence interval
- Detailed review of development, calibration and validation of a microscopic multilane traffic simulation model
  - Concepts
  - Approaches
  - Methods
  - Statistical analysis of results
  - Stability analysis of the model
- Statistical modeling
  - Continuous distributions
  - Goodness-of-fit tests
- Random numbers
  - Mid-Square method
  - Linear Congruential Generators (LCG)
  - Test for random number generators
- Random variates
  - Inverse Transform
  - Composition
  - Convolution
  - Acceptance-Rejection
- Variance reduction technique
  - Common random numbers
VII. Instructional Goals and Student Learning Outcomes

A. Instructional Goals. The instructor will:

1. Emphasize the fundamental concepts and models of traffic simulation with emphasis on the techniques and skills of utilizing traffic simulation software to evaluate traffic operation and control strategies.

2. Develop skills to conduct simulation studies for traffic operation and control, and the application of simulation models for the industry.

Student Learning Outcomes. After successful completion of course, student will be able to demonstrate:

<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>Assessment Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proficiency in the use of microscopic traffic simulation models</td>
<td>Final project report, Class presentations, Exam.</td>
</tr>
<tr>
<td>Techniques to evaluate and interpret the results from microscopic traffic simulation models</td>
<td>Project assignments, Class presentations</td>
</tr>
<tr>
<td>Proficiency in the concepts of calibration and validation of simulation models</td>
<td>HW assignments, Project assignments, Project report, Exam</td>
</tr>
<tr>
<td>The application of simulation models for analyzing traffic operation and control</td>
<td>HW assignments, Project report, Exam.</td>
</tr>
<tr>
<td>The capability to write a technical report and present the results of their simulation studies to professionals</td>
<td>Project report and presentation</td>
</tr>
</tbody>
</table>

VIII. Suggested Texts


IX. Bibliography and Resources

2. The following software can be used:
   a. VISSIM from PTV-America (http://www.ptvamerica.com),
   b. CORSIM from McTrans at Univ. of Florida (http://mctrans.ce.ufl.edu/),
   c. AIMSUN from Transport Simulation System (TSS) (http://www.aimsun.com).
1a. School or College  
EN SOENGR

1b. Division  
No Division Code

1c. Department  
CE

2. Course Prefix  
CE

3. Course Number  
A626

4. Previous Course Prefix & Number  
N/A

5a. Credits/CEUs  
3.0

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

6. Complete Course Title  
Traffic Modeling and Simulation

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
- College
- Major
- Level
- Repeat Status
- Contact Hours
- Cross-Listed/Stacked
- Course Prerequisites
- Co-requisites
- Registration Restrictions

9. Repeat Status choose one  
# of Repeats  Max Credits

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

11. Implementation Date  
From: Spring/2013  To: 9999/9999

12. ☐ Cross Listed with  
☒ Stacked with CE A426

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

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Catalog Page(s)</th>
<th>Impacted</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Civil Engineering, BS</td>
<td>Courtesy Coordination, 10/12/2012</td>
<td>Dr. Osama Abaza</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Civil Engineering, MS</td>
<td>Courtesy Coordination, 10/12/2012</td>
<td>Dr. Osama Abaza</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Initiator Name (typed): Ghulam H. Bham  
Initiator Signed Initials:  
Date:

13b. Coordination Email  
Date: 10/09/2012  
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison  
Date: 10/09/2012

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 concepts of traffic flow simulation, modeling of driver behavior, and application of traffic simulation in Intelligent Transportation Systems (ITS).

16a. Course Prerequisite(s) (list prefix and number)  
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)  
Instructor's permission and graduate standing

17. ☐ Mark if course has fees

18. ☐ Mark if course is a selected topic course

19. Justification for Action  
A new course for transportation graduate students in traffic simulation. Not offered by other departments.

Initiator (faculty only)  
Ghulam H. Bham  
Initiator (TYPE NAME)

☑ 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
I. Initiation Date: October 9, 2012

II. Course Information
A. College: School of Engineering
B. Course Title: Traffic Modeling and Simulation
C. Course Subject/Number: CE A626
D. Credit Hours: 3.0
E. Contact: 3+0
F. Grading Information: A-F
G. Course Description: Introduces concepts of traffic flow simulation, modeling of driver behavior, and application of traffic simulation in Intelligent Transportation Systems (ITS).

Special Note: Stacked with CE A426

H. Status of course relative to degree or certificate program: Graduate level course in Civil Engineering
I. Lab Fees: No
J. Coordination: UAA/SOE/CE faculty list serves
K. Course Prerequisites: Graduate standing
L. Registration Restrictions: Instructor’s permission and graduate standing

III. Course Activities
Course activities will be composed of demonstration, lectures and discussion by instructor. Instructor will provide regular homework assignments, a project, review of high quality technical literature including journal papers and self-study materials. The instructor will also train students in related traffic simulation software. The students’ performance will be assessed based on homework, a final examination, project assignments that will lead to a detailed project report, and technical presentation on the project assigned.

IV. Evaluation
Evaluation procedures are at the discretion of the instructor and will be discussed during the first class in the semester. Students will be evaluated on a semester long class project, homework assignments, presentations, technical skills, attendance and participation in class activities. Project evaluation will generally include quality of content, problem solving, and amount of effort. It is understood that progress will vary with individual students and is dependent upon skills, expertise, creativity, and/or amount of time devoted to each assignment.
V. **Course Level Justification**

This course builds on material covered in CE A402, Transportation Engineering, and CE A423/623, Traffic Engineering. It adds an important graduate level course in transportation engineering.

VI. **Course Outline**

- **Fundamentals of system simulation**
  - Define systems, models, simulation models
  - Define types of simulation models

- **Building simulation models**
  - Components of a simulation model
  - Steps in a simulation model

- **Traffic flow simulation approaches**
  - Analytical versus simulation
  - Discrete versus continuous
  - Macroscopic, mesoscopic, microscopic

- **Traffic flow simulation software**
  - PTV-America, McTrans, Transport Simulation System

- **Review of probability and statistics**
  - Random variables and their properties
  - Simulation output data and stochastic processes
  - Estimation of means and variances
  - Confidence interval

- **Detailed review of development, calibration and validation of a microscopic multilane traffic simulation model**
  - Concepts
  - Approaches
  - Methods
  - Statistical analysis of results
  - Stability analysis of the model

- **Statistical modeling**
  - Continuous distributions
  - Goodness-of-fit tests

- **Random numbers**
  - Mid-Square method
  - Linear Congruential Generators (LCG)
  - Test for random number generators

- **Random variates**
  - Inverse Transform
  - Composition
  - Convolution
  - Acceptance-Rejection

- **Variance reduction technique**
  - Common random numbers
VII. Instructional Goals and Student Learning Outcomes

A. Instructional Goals. The instructor will:
   1. Emphasize the fundamental concepts and models of traffic simulation with emphasis on the techniques and skills of utilizing traffic simulation software to evaluate traffic operation and control strategies.
   2. Develop skills to conduct simulation studies for traffic operation and control, and the application of simulation models in research and the industry.

Student Learning Outcomes. After successful completion of course, student will be able to demonstrate:

<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>Assessment Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proficiency in the use of microscopic traffic simulation models</td>
<td>Final project report, Class presentations, Exam.</td>
</tr>
<tr>
<td>Techniques to evaluate and interpret the results from microscopic traffic simulation models</td>
<td>Project assignments, Class presentations</td>
</tr>
<tr>
<td>Proficiency in the concepts of calibration and validation of simulation models</td>
<td>HW assignments, Project assignments, Project report, Exam</td>
</tr>
<tr>
<td>The application of simulation models for analyzing traffic operation and control</td>
<td>HW assignments, Project report, Exam.</td>
</tr>
<tr>
<td>Understanding of technical literature and their application</td>
<td>Review of technical literature related to traffic simulation models</td>
</tr>
<tr>
<td>The capability to write a technical report and present the results of their simulation studies to professionals</td>
<td>Project report and presentation</td>
</tr>
</tbody>
</table>

VIII. Suggested Text


IX. Bibliography and Resources

1. Technical journal papers
3. The following software can be used:
   a. VISSIM from PTV-America ([http://www.ptvamerica.com](http://www.ptvamerica.com)),
   b. CORSIM from McTrans at Univ. of Florida ([http://mctrans.ce.ufl.edu/](http://mctrans.ce.ufl.edu/)),
   c. AIMSUN from Transport Simulation System (TSS) ([http://www.aimsun.com](http://www.aimsun.com)).