February 28, 2014
2:00-5:00
ADM 204

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

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

II. Approval of the Agenda (pg. 1-3)

III. Approval of Meeting Summary (pg. 4-6)

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. First Reading of Purge List for the 2014-15 UAA Catalog (pg. 7-10)
B. First Reading of GER Purge List for 2014-15 UAA Catalog (pg. 11)

VIII. Program/Course Action Request- Second Readings
Chg Minor, Geological Sciences (pg. 12)
Chg Bachelor of Science, Geological Sciences (pg. 13-23)
Chg HUMS A496 Human Services Capstone (GER)(3 cr)(3+0)(pg. 24-28)
Add Minor, Human Services (pg. 29-31)
Chg Bachelor of Human Services (pg. 32-35)
Add Prefix, COHI (pg. 36-38)
Chg GEO A460 Geomatics Capstone Project (GER)(3 cr)(1+6)(pg. 39-43)
IX. Program/Course Action Request- First Readings

Chg GIS A433 Coastal Mapping (3 cr)(2+2)(pg. 44-49)
Chg GIS A458 Spatial Data Management (3 cr)(2+2)(pg. 50-54)
Chg GIS A458 Minor, GIS (pg. 55-61)
Chg GIS A458 Undergraduate Certificate, GIS (pg. 62-66)
Chg GIS A458 AAS, Geomatics (pg. 67-71)
Chg GIS A458 BS, Geomatics (pg. 72-81)
Add ENVI A370 Environmental Field Methods (3 cr)(3+0)(pg. 82-85)
Chg PSY A200 Introduction to Behavior Analysis (GER)(3 cr)(3+0)(pg. 105-109)
Chg PSY A400 Strategies of Behavior Analysis (Stacked with PSY A600)
(3 cr)(3+0)(pg. 110-120)
Chg PSY A455 Interventions for Challenging Behavior (stacked with PSY A655)
(3 cr)(3+0)(pg. 121-137)
Add PSY A447 Behavioral Treatment of Autism Spectrum Disorder (stacked with PSY A647)
(3 cr)(3+0)(pg. 138-153)
Add PSY A467 Organizational Behavior Management (stacked with PSY A667)
(3 cr)(3+0)(pg. 154-164)
Add PSY A478 Advanced Applications of Behavior Analysis (stacked with PSY A678)
(3 cr)(3+0)(pg. 165-176)
Chg PSY A495A Applied Behavior Analysis Practicum and Professional Issues
(3 cr)(3+0)(pg. 177-183)
Add PSY A495B Applied Behavior Analysis Supervised Practicum (1-3 cr)(0+9)(pg. 184-189)
Chg BA, Psychology (pg. 190-192)
Chg BS, Psychology (pg. 193-204)
Add PHYS A381 Advanced Physics Laboratory (3 cr)(0+6)(pg. 205-208)
Chg PHYS A403 Quantum Physics (stacked with PHYS A603)(4 cr)(4+0)(pg. 209-216)
Chg PHYS A413 Statistical and Thermal Physics (stacked with PHYS A613)
(4 cr)(4+0)(pg. 217-224)
Add PHYS A456 Nonlinear Dynamics and Chaos (GER)(Cross-listed with CHEM/Biol A456
and stacked with CHEM/Biol/PHYS A656)(3 cr)(3+0)(pg. 225-226)
Add BIOL A456 Nonlinear Dynamics and Chaos (GER)(Cross-listed with CHEM/PHYS A456 and stacked with CHEM/Biol/PHYS A656)(3 cr)(3+0)(pg. 227)

Add CHEM A456 Nonlinear Dynamics and Chaos (GER)(Cross-listed with PHYS/Biol A456 and stacked with CHEM/Biol/PHYS A656)(3 cr)(3+0)(pg. 228-231)

Add PHYS A490 Special Topics in Physics (stacked with PHYS A690)(1-4 cr)(1-4+0)(pg. 232-239)

Add DMS A102 Foundations of Sonography (3 cr)(2+0)(pg. 240-244)

Chg DMS A211 Small Parts Sonography (1 cr)(1+0)(pg. 245-249)

Chg DMS A215 Breast Sonography (1 cr)(1+0)(pg. 250-254)

Chg DMS A217 Fundamentals of Sonography Lab (1 cr)(0+2)(pg. 255-258)

Add DMS A219 Practical Sonography Lab (3 cr)(0+9)(pg. 259-261)

Chg DMS A295A Clinical Practicum I (9 cr)(1+40)(pg. 262-265)

Chg DMS A295B Clinical Practicum II (9 cr)(0+40)(pg. 266-269)

Chg DMS A392 Pathophysiology Seminar (2 cr)(2+0)(pg. 270-272)

Chg DMS A395 Clinical Practicum III (8 cr)(0+32)(pg. 273-277)

Chg AAS, Diagnostic Medical Sonography (pg. 278-286)

Add GEOL A430 Sedimentology (3 cr)(1+6)(pg. 287-291)

Add GEOL A431 Stratigraphy (3 cr)(3+0)(pg. 292-296)

Add GEOL A432L Sedimentary Petrology Laboratory (1 cr)(0+3)(pg. 297-299)

Chg ES A346 Introduction to Thermodynamics (3 cr)(3+0)(pg. 300-303)

X. Informational Items and Adjournment
A. Joint UAB/GAB meeting will be held on March 21st from 11:00 to 1:00 in ADM 142
Undergraduate Academic Board
Summary

February 21, 2014
2:00-5:00
ADM 204

I. Roll
(x) Alberta Harder (FS)
(x) Soren Orley (FS)
(x) Francisco Miranda (CAS, Chair)
(x) Barbara Harville (CAS)
(x) Mari Ippolito (CAS)
( ) Len Smiley (CAS)
(x) Dave Fitzgerald (CBPP)
(x) Eileen Weatherby (COH)
(e) Irasema Ortega (COE)
(x) Cheryl Smith (CTC)
(x) Upal Dutta (SOE)
(x) Kevin Keating (LIB)

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

II. Approval of the Agenda (pg. 1-4)
Approved as amended with GEO 460 being reviewed first so it can be offered in the Fall 2014.

III. Approval of Meeting Summary (pg. 5-9)
Approved as amended, listing PSLO instead of SLO in Susan Kalina’s report.

IV. Administrative Report
A. Vice Provost for Undergraduate Academic Affairs Susan Kalina

B. University Registrar Lora Volden
Priority registration opens for all admitted certificate and degree seeking students on Monday, February 24th. Summer 2014 registration opens for all students on Monday, March 3rd.

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

B. GERC
Met to discuss the Board of Regents general education requirements in relation to the General Education Learning Outcome (GELO) subcommittee of Faculty Alliance.

VI. Old Business

VII. New Business

VIII. Program/Course Action Request- Second Readings
Add HUMS A415 Advanced Human Services System (3 cr)(3+0)(pg. 10-14)
Chg HUMS A461 Crisis Intervention (3 cr)(3+0)(pg. 15-18)
Courses are approved for second reading

IX. Program/Course Action Request- First Readings
Chg HUMS A495A Human Services Practicum III (3 cr)(1+9)(pg. 19-24)
Waive first reading, approve for second

Chg HUMS A496 Human Services Capstone (GER)(3 cr)(3+0)(pg. 25-29)
Accepted for first reading, going to GERC

Add Minor, Human Services (pg. 30-32)
Accepted for first reading
Chg Bachelor of Human Services (pg. 33-37)
Accepted for first reading

Chg Associate of Applied Science, Nursing (pg. 38-45)
Accepted for first reading

Add Prefix, COHI (pg. 46-48)
Accepted for first reading, going to GAB

Chg Bachelor of Business Administration, Management (pg. 49-54)
Waive first reading, approve for second

Del GEO A137 Principles of Mapping (3 cr)(2+2)(pg. 55-56)
Chg GEO A146 Geomatics Computations I (3 cr)(3+0)(pg. 57-61)
Chg GEO A155 Introduction to Surveying (3 cr)(2+3)(pg. 62-66)
Add GEO A156 Fundamentals of Surveying (3 cr)(2+3)(pg. 67-70)
Chg GEO A157 Computer-Aided Drafting for Surveyors (3 cr)(2+2)(pg. 71-75)
Del GEO A158 Geomatics Computer Fundamentals (1 cr)(0+2)(pg. 76)
Add GEO A246 Geomatics Computations II (3 cr)(3+0)(pg. 77-82)
Del GEO A248 Digital Terrain Cartography (3 cr)(2+2)(pg. 83-84)
Chg GEO A256 Engineering Surveying (3 cr)(2+3)(pg. 85-89)
Chg GEO A265 Spatial Data Adjustments I (3 cr)(3+0)(pg. 90-95)
Chg GEO A266 Advanced Surveying (3 cr)(2+3)(pg. 96-100)
Chg GEO A267 Boundary Law I (3 cr)(3+0)(pg. 101-108)
Del GEO A301 Geomatics Professional Development I (1 cr)(0+2)(pg. 109)
Del GEO A302 Geomatics Professional Development II (1 cr)(0+2)(pg. 110)
Del GEO A303 Geomatics Professional Development III (1 cr)(0+2)(pg. 111)
Chg GEO A355 Land Development and Design (3 cr)(2+2)(pg. 112-116)
Chg GEO A357 Photogrammetry (3 cr)(2+2)(pg. 117-122)
Del GEO A358 Programming for Digital Cartography (3 cr)(2+2)(pg. 123)
Chg GEO A359 Geodesy and Map Projection (3 cr)(3+0)(pg. 124-128)
Add GEO A366 Spatial Data Adjustments II (3 cr)(3+0)(pg. 129-134)
Add GEO A369 Cadastral Surveys (3 cr)(3+0)(pg. 135-139)
Add GEO A410 Airborne LiDAR Surveying (3 cr)(2+2)(pg. 140-142)
Add GEO A420 High Density Spatial Data Analysis (3 cr)(2+2)(pg. 143-145)
Chg GEO A433 Hydrographic Surveying (3 cr)(3+0)(pg. 146-150)
Chg GEO A457 Boundary Law II (3 cr)(3+0)(pg. 151-155)
Del GEO A459 Geodetic Geomatics (3 cr)(3+0)(pg. 156)

Courses are waived for first reading and approved for second

Chg GEO A460 Geomatics Capstone Project (GER)(3 cr)(1+6)(pg. 157-162)
Accepted for first reading, going to GERC

Chg GEO A466 Geopositioning (3 cr)(2+2)(pg. 163-167)
Del GEO A467 Analytical and Digital Photogrammetry (3 cr)(2+2)(pg. 168)
Chg GEO A490 Selected Advanced Topics in Geomatics (1-6 cr)(0-6+0-12)(pg. 169-172)

Courses are waived for first reading and approved for second

Chg GIS A101 Introduction to Geographic Information Systems (3 cr)(2+2)(pg. 173-177)
Del GIS A123 Introduction to Geographic Information Systems (GIS) (1 cr)(1+.5)(pg. 178)
Del GIS A124 Introduction to GIS and Remote Sensing (1 cr)(1+.5)(pg. 179)
Del GIS A125 GPS for GIS (1 cr)(1+0)(pg. 180)
Add GIS A201 Intermediate Geographic Information Systems (3 cr)(2+2)(pg. 181-184)
Del GIS A295 Internship in GIS (3 cr)(0+15)(pg. 185)
Add GIS A301 Intermediate Geographic Information System (3 cr)(2+2)(pg. 186-190)
Chg GIS A351 Remote Sensing (3 cr)(2+2)(pg. 191-195)
Chg GIS A366 Spatial Analysis (3 cr)(2+2)(pg. 196-200)
Chg GIS A367 Image Analysis (3 cr)(2+2)(pg. 201-205)
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<th>Credits</th>
<th>Days</th>
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<td>GIS and Remote Sensing for Natural Resources</td>
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<td>GIS A371</td>
<td>GIS Applications I</td>
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<td>Coastal Mapping</td>
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<td>Spatial Data Management</td>
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<td>GIS Senior Project</td>
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<td>GIS A468</td>
<td>Integration of Geomatics Technologies</td>
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<td>GIS A471</td>
<td>GIS Applications II</td>
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Courses are waived for first reading and approved for second

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Postponed until next meeting

X. Informational Items and Adjournment

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<td>ENGL A352</td>
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<td>ENGL A362</td>
<td>Writers’ Workshop: Fiction</td>
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<td>ENGL A382</td>
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<td>ENGL A452</td>
<td>Advanced Writers’ Workshop: Poetry</td>
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# Purge List for the 2014-15 UAA Catalog, 1st Read

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<th>COURSE IMPACTS</th>
<th>PROGRAM IMPACTS</th>
<th>COMMENTS</th>
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<td>200901</td>
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## GER Purge List for the 2014-15 UAA Catalog, 1st Read

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<td>CIS</td>
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<td>&quot;Information Age Literacy&quot;</td>
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</table>
1a. School or College
   AS CAS

1b. Department
   Geological Sciences

2. Complete Program Title/Prefix
   Geological Sciences - B.S./ GEOL

3. Type of Program
   Choose one from the appropriate drop down menu:
   Undergraduate: or Graduate: Minor or 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: Fall /2014 To: 9999

6a. Coordination with Affected Units
   Department, School, or College: CAS
   Initiator Name (typed): Kristine J Crossen
   Initiator Signed Initials: ___________

6b. Coordination Email submitted to Faculty Listserv (uaa-faculty@lists.uaa.alaska.edu)
   Date: 2/28/13

6c. Coordination with Library Liaison
   Date: 4/1/13

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

8. Justification for Action
   Change GEOL A111 Physical Geology (4 credits) to GEOL A111 (3 credits) and A111L (1 credit) or GEOL A121 (4 credits) due to separation of GEOL A111 into GEOL A111 and A111L and the addition of the new course GEOL A121.

Initiator (faculty only)
Kristine J Crossen
Initiator (TYPE NAME)

☑ Approved
☐ Disapproved

☐ Approved
☐ Disapproved

☐ Approved
☐ Disapproved

☐ Approved
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☐ Approved
☐ Disapproved
1a. School or College
   AS CAS

1b. Department
   Geological Sciences

2. Complete Program Title/Prefix
   Geological Sciences - B.S./GEOL

3. Type of Program
   Choose one from the appropriate drop down menu:
   Undergraduate: Bachelor of Science 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: Fall /2014 To: 9999

6a. Coordination with Affected Units
   Department, School, or College: CAS
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6c. Coordination with Library Liaison
   Date: 4/1/13

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

8. Justification for Action
   1. Addition of introductory course for majors (GEOL A121)
   2. Separation of GEOL A111 (lecture/lab) into GEOL A111 and A111L
   3. Additional information on field trips (GEOL A221, GEOL A381, GEOL A382, GEOL A480, GEOL A482)
   4. Stacking of upper division courses with newly developed graduate courses (GEOL A454 and A654, GEOL A455 and A655, GEOL A456 and A656, GEOL A460 and A660, and GEOL A490 and A690)
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Geology is the science that studies planet Earth. The geological sciences incorporate areas of study in:

1. Earth materials including mineralogy, petrology, sedimentology and stratigraphy, volcanology, ore deposits, and structure;
2. Geologic Earth history including historical geology and paleontology;
3. Earth surface processes including geomorphology, soils, paleoclimatology, glacial geology, and permafrost; and
4. Earth’s environmental systems including hydrogeology, environmental geochemistry and geophysics. The curriculum is designed to provide students with a solid understanding of the geological sciences to prepare them for graduate studies, government and industry employment, and teaching. A Bachelor of Science degree in Geological Sciences is available for undergraduates.

The Geological Sciences faculty is highly motivated to transmit their knowledge and passion for the geological sciences and focus on combining classroom education with laboratory and field work. Students who enjoy working outdoors, have a strong scientific background, and are interested in earth processes will find the geological sciences a rewarding area of study.

The program in Geological Sciences requires completion of a basic science curriculum in chemical, physical, and mathematical sciences in addition to core and elective courses in geological sciences. The undergraduate degree in geology offers two tracks: general geology or environmental geology. The general geology track includes core geology courses with upper division course electives. The environmental geology track requires core geology courses plus upper division electives that focus on environmental topics including environmental geochemistry, hydrogeology, and soils. Students are strongly encouraged to consult with Geologic Sciences faculty to choose the direction of study suiting their goals.

The Bachelor of Science in Geological Sciences program requires a minimum of 120 credits for graduation. It can be completed in four years by students who have adequate high school preparation in the sciences and math. Consult the College of Arts and Sciences list of recommended preparatory courses in all disciplines.

**Program Objectives and Student Learning Outcomes**

The curriculum of the UAA Geological Sciences program is designed to produce graduates who:

1. Have a basic knowledge of the principles related to the geological sciences with either an emphasis in environmental geology or general geology;
2. Have an understanding of how to think scientifically and apply their knowledge to solve geologic problems;
3. Have sufficient competence to obtain employment as an entry-level geologist or environmental geologist, and be able to progress professionally within the discipline and are prepared for advanced study;
4. Have a fundamental understanding of Alaskan geology and environmental problems in Alaska;
5. Are able to communicate their ideas; and
6. Are prepared for and understand the need for continued professional development throughout their careers.

In keeping with the objectives, it is expected that graduates of the UAA Geological Sciences program will have:

1. An ability to apply their knowledge of general geology and/or environmental geology;
2. An ability to accept challenges and think through problems until they are solved;
3. An ability to design and conduct projects that include field work, laboratory analyses and interpretation in their area of emphasis;
4. Experience in field geology in Alaska;
5. An ability to communicate effectively; and
6. A recognition of the need for, and ability to pursue, lifelong learning.
Honors in Geological Sciences

The Department of Geological Sciences offers recognition to students who demonstrate exceptional promise in the science by awarding them with departmental honors in Geological Sciences. To graduate with departmental honors, the student must be a declared Geological Sciences major and meet the following requirements:

1. Satisfy all requirements for a BS degree in Geological Sciences.
3. Complete 6 credits of GEOL A499 Senior Thesis or 3 credits of GEOL A498 Directed Research and 3 credits of GEOL A499 Senior Thesis in Geological Sciences with a grade of B or better.
4. Students intending to graduate with departmental honors must notify the Departmental Honors Committee, in writing, on or before the date they file their Application for Graduation with the Office of the Registrar.

Bachelor of Science, Geological Sciences

Admission Requirements

Complete the Admission to Baccalaureate Programs Requirements in Chapter 7, Academic Standards and Regulations.

Academic Progress

In order to graduate with a BS in Geological Sciences, all courses covered under Major Requirements for a BS in Geological Sciences must be completed with a grade of C or better. Students who audit a course in Geological Sciences or who are unable to earn a grade of C or better in the course may repeat the course for a maximum of two times. All prerequisites for Geological Sciences courses must be completed with a grade of C or better.

Please consult the undergraduate academic advisor in the Department of Geological Sciences to obtain a student handbook for the Geological Sciences major.

Graduation Requirements

Students must complete the following graduation requirements:

A. General University Requirements

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

B. General Education Requirements

Complete the General Education Requirements for Baccalaureate Degrees located 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 of this catalog.

D. Major Requirements

1. Some major requirements may also be used to satisfy the College of Arts and Sciences BS requirements.
2. Complete these required support courses (24 credits):
   
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<td>CHEM A105/L</td>
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<td>CHEM A106/L</td>
<td>General Chemistry II</td>
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<td>PHYS A123/L</td>
<td>Basic Physics I</td>
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<td>Basic Physics II</td>
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<td>MATH A200</td>
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<td>STAT A253</td>
<td>Applied Statistics for the Sciences</td>
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<tr>
<td>STAT A307</td>
<td>Probability and Statistics</td>
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   *Note: Math A201 Calculus II is highly recommended for students majoring in Geological Sciences.*

3. Complete Geological Sciences core curriculum courses (40 credits):
a. Complete the following required courses (34 credits)

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<td>Physical Geology for Science and Engineering Majors</td>
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<td>GEOL A221</td>
<td>Historical Geology</td>
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<td>Igneous and Metamorphic Petrology</td>
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<tr>
<td>GEOL A452</td>
<td>Sedimentology and Stratigraphy</td>
<td>4</td>
</tr>
<tr>
<td>GEOL A452</td>
<td>Sedimentology and Stratigraphy</td>
<td>4</td>
</tr>
</tbody>
</table>

b. Complete a minimum of 6 credits of the following required field courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL A480*</td>
<td>Geologic Field Methods</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A481*</td>
<td>Alaskan Field Investigations</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Geology Field Camp (3-6)</td>
<td></td>
</tr>
</tbody>
</table>

*GEOL A480 and GEOL A481 are offered through UAA. Geology Field Camps are offered through other accredited academic institutions and must be approved by the Department of Geological Sciences. Credits must be transferable to UAA from the academic institution that is offering the course and must be completed with at least a minimum grade of 2.00.

4. Complete 13-14 credits of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL A320</td>
<td>Volcanology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A325</td>
<td>Geology of Ore Deposits</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A340</td>
<td>Hydrogeology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A380</td>
<td>Anchorage Field Studies</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A381</td>
<td>Kenai Peninsula Field Studies</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A382</td>
<td>Geologic Field Studies</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A454</td>
<td>Glacial and Quaternary Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A455</td>
<td>Permafrost</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A456</td>
<td>Geoarchaeology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A460</td>
<td>Environmental Geochemistry</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A475</td>
<td>Environmental Geophysics</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A480**</td>
<td>Geologic Field Methods</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A481**</td>
<td>Alaskan Geologic Field Investigations</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A482</td>
<td>Geologic Field Investigations</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A490</td>
<td>Advanced Topics in Geology</td>
<td>1-4</td>
</tr>
<tr>
<td>GEOL A492</td>
<td>Geology Seminar</td>
<td>1</td>
</tr>
<tr>
<td>GEOL A495</td>
<td>Geology Internship</td>
<td>1-9</td>
</tr>
<tr>
<td>GEOL A498</td>
<td>Student Research</td>
<td>1-6</td>
</tr>
<tr>
<td>GEOL A499</td>
<td>Senior Thesis</td>
<td>3</td>
</tr>
</tbody>
</table>

**GEOL A480 and GEOL 481 may be applied toward recommended electives if they are not being applied to satisfy the core curriculum credits.

Environmental Geological Sciences Track
Students wishing to receive a degree with an Environmental Geological Sciences track should complete the following sequence of the electives listed above:

Complete requirement 4. with the following (13-14 credits):

a. GEOL A340 Hydrogeology 3

b. Complete at least 6 additional credits from the following: 6
   - GEOL A454 Glacial and Quaternary Geology (3)
   - GEOL A455 Permafrost (3)
   - GEOL A460 Environmental Geochemistry (3)
   - GEOL A475 Environmental Geophysics (3)
   - GEOL A495 Geology Internship (1-3)

c. Complete at least 4 additional credits from 4.

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

**Minor, Geological Sciences**

Students majoring in another subject who wish to minor in Geological Sciences must complete the following requirements. Completion of a minimum of 18 credits is required for the minor, 8 of which must be upper division.

- GEOL A111 Physical Geology (3) and GEOL A111L (1) 4
- Or
  - GEOL A121 Physical Geology for Science and Engineering Majors 4
  - GEOL A221 Historical Geology 4
  - Upper division Geological Sciences electives 8
  - Other Geological Sciences electives 2 or more

**FACULTY**

Kristine J. Crossen, Professor/Chair, kjcrossen@uaa.alaska.edu
Jennifer Aschoff, Associate Professor
LeeAnn Munk, Professor, lamunk@uaa.alaska.edu
Donald “Matt” Reeves, Associate Professor
Anne Pasch, Emeritus Professor, AHADP@uaa.alaska.edu
Mark Rivera, Term Instructor, marivera@uaa.alaska.edu
Geology is the science that studies planet Earth. The geological sciences incorporate areas of study in:

1. Earth materials including mineralogy, petrology, sedimentology and stratigraphy, volcanology, ore deposits, and structure;
2. Geologic Earth history including historical geology and paleontology;
3. Earth surface processes including geomorphology, soils, paleoclimatology, glacial geology, and permafrost; and
4. Earth’s environmental systems including hydrogeology, environmental geochemistry and geophysics. The curriculum is designed to provide students with a solid understanding of the geological sciences to prepare them for graduate studies, government and industry employment, and teaching. A Bachelor of Science degree in Geological Sciences is available for undergraduates.

The Geological Sciences faculty is highly motivated to transmit their knowledge and passion for the geological sciences and focus on combining classroom education with laboratory and field work. Students who enjoy working outdoors, have a strong scientific background, and are interested in earth processes will find the geological sciences a rewarding area of study.

The program in Geological Sciences requires completion of a basic science curriculum in chemical, physical, and mathematical sciences in addition to core and elective courses in geological sciences. The undergraduate degree in geology offers two tracks: general geology or environmental geology. The general geology track includes core geology courses with upper division course electives. The environmental geology track requires core geology courses plus upper division electives that focus on environmental topics including environmental geochemistry, hydrogeology, and soils. Students are strongly encouraged to consult with Geologic Sciences faculty to choose the direction of study suiting their goals.

The Bachelor of Science in Geological Sciences program requires a minimum of 120 credits for graduation. It can be completed in four years by students who have adequate high school preparation in the sciences and math. Consult the College of Arts and Sciences list of recommended preparatory courses in all disciplines.

**Program Objectives and Student Learning Outcomes**

The curriculum of the UAA Geological Sciences program is designed to produce graduates who:

1. Have a basic knowledge of the principles related to the geological sciences with either an emphasis in environmental geology or general geology;
2. Have an understanding of how to think scientifically and apply their knowledge to solve geologic problems;
3. Have sufficient competence to obtain employment as an entry-level geologist or environmental geologist, and be able to progress professionally within the discipline and are prepared for advanced study;
4. Have a fundamental understanding of Alaskan geology and environmental problems in Alaska;
5. Are able to communicate their ideas; and
6. Are prepared for and understand the need for continued professional development throughout their careers.

In keeping with the objectives, it is expected that graduates of the UAA Geological Sciences program will have:

1. An ability to apply their knowledge of general geology and/or environmental geology;
2. An ability to accept challenges and think through problems until they are solved;
3. An ability to design and conduct projects that include field work, laboratory analyses and interpretation in their area of emphasis;
4. Experience in field geology in Alaska;
5. An ability to communicate effectively; and
6. A recognition of the need for, and ability to pursue, lifelong learning.
Honors in Geological Sciences

The Department of Geological Sciences offers recognition to students who demonstrate exceptional promise in the science by awarding them with departmental honors in Geological Sciences. To graduate with departmental honors, the student must be a declared Geological Sciences major and meet the following requirements:

1. Satisfy all requirements for a BS degree in Geological Sciences.
3. Complete 6 credits of GEOL A499 Senior Thesis or 3 credits of GEOL A498 Directed Research and 3 credits of GEOL A499 Senior Thesis in Geological Sciences with a grade of B or better.
4. Students intending to graduate with departmental honors must notify the Departmental Honors Committee, in writing, on or before the date they file their Application for Graduation with the Office of the Registrar.

Bachelor of Science, Geological Sciences

Admission Requirements

Complete the Admission to Baccalaureate Programs Requirements in Chapter 7, Academic Standards and Regulations.

Academic Progress

In order to graduate with a BS in Geological Sciences, all courses covered under Major Requirements for a BS in Geological Sciences must be completed with a grade of C or better. Students who audit a course in Geological Sciences or who are unable to earn a grade of C or better in the course may repeat the course for a maximum of two times. All prerequisites for Geological Sciences courses must be completed with a grade of C or better.

Please consult the undergraduate academic advisor in the Department of Geological Sciences to obtain a student handbook for the Geological Sciences major.

Graduation Requirements

Students must complete the following graduation requirements:

A. General University Requirements

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

B. General Education Requirements

Complete the General Education Requirements for Baccalaureate Degrees located 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 of this catalog.

D. Major Requirements

1. Some major requirements may also be used to satisfy the College of Arts and Sciences BS requirements.
2. Complete these required support courses (24 credits):
   - CHEM A105/L General Chemistry I 4
   - CHEM A106/L General Chemistry II 4
   - PHYS A123/L Basic Physics I 4
   - PHYS A124/L Basic Physics II 4
   - MATH A200 Calculus I 4
   - STAT A253 Applied Statistics for the Sciences (4) 4
     or
   - STAT A307 Probability and Statistics (4)
   Note: Math A201 Calculus II is highly recommended for students majoring in Geological Sciences.
3. Complete Geological Sciences core curriculum courses (40 credits):
a. Complete the following required courses (34 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL A121</td>
<td>Applied Physical Geology for Science and Engineering Majors</td>
<td>4</td>
</tr>
<tr>
<td>GEOL A221</td>
<td>Historical Geology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL A321</td>
<td>Mineralogy</td>
<td>4</td>
</tr>
<tr>
<td>GEOL A322</td>
<td>Igneous and Metamorphic Petrology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL A335</td>
<td>Structural Geology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL A350</td>
<td>Geomorphology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL A360</td>
<td>Geochemistry</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A310</td>
<td>Professional Practices in Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A452</td>
<td>Sedimentology and Stratigraphy</td>
<td>4</td>
</tr>
</tbody>
</table>

b. Complete a minimum of 6 credits of the following required field courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL A480*</td>
<td>Geologic Field Methods</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A481*</td>
<td>Alaskan Field Investigations</td>
<td>3</td>
</tr>
</tbody>
</table>

*GEOL A480 and GEOL A481 are offered through UAA. Geology Field Camps are offered through other accredited academic institutions and must be approved by the Department of Geological Sciences. Credits must be transferable to UAA from the academic institution that is offering the course and must be completed with at least a minimum grade of 2.00.

4. Students must select one of the following tracks in the Geological Sciences. Students may complete both tracks, but may not use the same courses to fulfill the requirements in each track.

a. General Geological Sciences Track (13-14 credits)

4. Complete 13-14 credits of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL A320</td>
<td>Volcanology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A325</td>
<td>Geology of Ore Deposits</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A340</td>
<td>Hydrogeology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A380</td>
<td>Anchorage Field Studies</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A381</td>
<td>Kenai Peninsula Field Studies</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A382</td>
<td>Geologic Field Studies</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A421</td>
<td>Invertebrate Paleontology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL A454</td>
<td>Glacial and Quaternary Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A455</td>
<td>Permafrost</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A456</td>
<td>Geoarchaeology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A457</td>
<td>Soil Genesis and Classification</td>
<td>4</td>
</tr>
<tr>
<td>GEOL A460</td>
<td>Environmental Geochemistry</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A475</td>
<td>Environmental Geophysics</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A480**</td>
<td>Geologic Field Methods</td>
<td>3</td>
</tr>
<tr>
<td>GEOL A481**</td>
<td>Alaskan Field Investigations</td>
<td>3</td>
</tr>
</tbody>
</table>

*GEOL A480 and GEOL A481 may be applied toward recommended electives if they are not being applied to satisfy the core curriculum credits.
b. Environmental Geological Sciences Track (13-14 credits)

Students wishing to receive a degree with an Environmental Geological Sciences track should complete the following sequence of the electives listed above:

Complete requirement 4. with the following (13-14 credits):

1.a. Complete the following 3 required credits:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL A340</td>
<td>Hydrogeology</td>
<td>3</td>
</tr>
</tbody>
</table>

1.b. Complete at least 6 additional credits from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL A454</td>
<td>Glacial and Quaternary Geology</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A455</td>
<td>Permafrost</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A457</td>
<td>Soil Genesis and Classification</td>
<td>(4)</td>
</tr>
<tr>
<td>GEOL A460</td>
<td>Environmental Geochemistry</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A475</td>
<td>Environmental Geophysics</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A495</td>
<td>Geology Internship</td>
<td>(1-3)</td>
</tr>
</tbody>
</table>

2.a. Complete at least 4 additional credits from 4. elective credits from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL A320</td>
<td>Volcanology</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A325</td>
<td>Geology of Ore Deposits</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A380</td>
<td>Anchorage Field Studies</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A381</td>
<td>Kenai Peninsula Field Studies</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A382</td>
<td>Geologic Field Studies</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A421</td>
<td>Invertebrate Paleontology</td>
<td>(4)</td>
</tr>
<tr>
<td>GEOL A454</td>
<td>Glacial and Quaternary Geology</td>
<td>(3)</td>
</tr>
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<td>GEOL A455</td>
<td>Permafrost</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A456</td>
<td>Geoarchaeology</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A457</td>
<td>Soil Genesis and Classification</td>
<td>(4)</td>
</tr>
<tr>
<td>GEOL A460</td>
<td>Environmental Geochemistry</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A475</td>
<td>Environmental Geophysics</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A480</td>
<td>Geologic Field Methods</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A481</td>
<td>Alaska Geologic Field Investigations</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A490</td>
<td>Geologic Field Investigations</td>
<td>(3)</td>
</tr>
<tr>
<td>GEOL A499</td>
<td>Advanced Topics in Geology</td>
<td>(1-4)</td>
</tr>
</tbody>
</table>

2.b. Complete at least 4 additional credits from 4. elective credits from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL A500</td>
<td>Advanced Topics in Geology</td>
<td>(1-4)</td>
</tr>
<tr>
<td>GEOL A492</td>
<td>Geology Seminar</td>
<td>(1)</td>
</tr>
<tr>
<td>GEOL A495</td>
<td>Geology Internship</td>
<td>(1-3)</td>
</tr>
<tr>
<td>GEOL A498</td>
<td>Student Research</td>
<td>(1-4)</td>
</tr>
<tr>
<td>GEOL A499</td>
<td>Senior Thesis</td>
<td>(3)</td>
</tr>
</tbody>
</table>

*GEOL A480 and GEOL A481 may be applied toward recommended electives if they are not being applied to satisfy the core curriculum credits.
5. A minimum of 120 credits is required for the degree, of which 42 must be upper division credits.

**Minor, Geological Sciences**

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

Completion of a minimum of 18 credits is required for the minor, 8 of which must be upper division.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL A111</td>
<td>Physical Geology (3) and GEOL A111L (1)</td>
<td>4</td>
</tr>
<tr>
<td>Or</td>
<td>GEOL A121 Physical Geology for Science and Engineering Majors</td>
<td>4</td>
</tr>
<tr>
<td>GEOL A111L</td>
<td>Physical Geology Lab</td>
<td>1</td>
</tr>
<tr>
<td>GEOL A221</td>
<td>Historical Geology</td>
<td>4</td>
</tr>
<tr>
<td>Upper division Geological Sciences electives</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Other Geological Sciences electives</td>
<td>2 or more</td>
<td></td>
</tr>
</tbody>
</table>

**FACULTY**

- LeeAnn Munk, Professor/Chair, lamunk@uaa.alaska.edu
- Kristine J. Crossen, Professor/Chair, kjcrossen@uaa.alaska.edu
- Terry R. Naumann, Associate Professor, trnaumann@uaa.alaska.edu
- Jennifer Aschoff, Associate Professor
- LeeAnn Munk, Professor, lamunk@uaa.alaska.edu
- Donald “Matt” Reeves, Associate Professor
- Anne Pasch, Emeritus Professor, AHADP@uaa.alaska.edu
- Mark Rivera, Term Instructor, marivera@uaa.alaska.edu
- Jennifer Witter, Term Assistant Professor, jpwitter@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>1b. Division</th>
<th>1c. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH College of Health</td>
<td>ADHS Div of Human Sv</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>A496</td>
<td>A495B</td>
<td>3.0</td>
<td>(3+0)</td>
</tr>
</tbody>
</table>

### 6. Complete Course Title

Human Services Capstone

#### Abbreviated Title for Transcript (30 characters)

### 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
- [x] Course Number
- [x] 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 Restrictions
- [ ] Other Update CCG (please specify)

### 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

- N/A

### 13. General Education Requirement

**Mark appropriate box:**

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

### 14. Course Description

(suggested length 20 to 50 words)

The course is designed to prepare students to conduct basic applied research resulting in a Human Services related Capstone project. Through the lens of grant writing, the course also explores, research models and scholarly writing.

### 15. Course Prerequisite(s)

(list prefix and number or test code and score)

- HUMS A420 and HUMS A495A with a grade C or better

### 16. Co-requisite(s)

(concurrent enrollment required)

- N/A

### 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 Name (typed):** Jo Ann Bartley  
**Initiator Signed Initials:** ___________________  
**Date:** ___________________

**Initiator (faculty only) Date**

---

**Dean/Director of School/College Date**

---

**Department Chair Date**

---

**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 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  
      The course is designed to prepare students to conduct basic applied research resulting in a Human Services related Capstone project. Through the lens of grant writing, the course also explores, research models and scholarly writing.
   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 for students the differences of historical, literacy, statistical, and qualitative techniques used to produce research.
      2. Present to students 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
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
   8.6Demonstrating outcomes
   8.7 Quarterly report writing

VI. Suggested Text

VII. Bibliography and Resources


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>
<th>1b. Department</th>
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<tbody>
<tr>
<td>CH College of Health</td>
<td>Human Services</td>
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<table>
<thead>
<tr>
<th>2. Complete Program Title/Prefix</th>
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<tr>
<td>Human Services Minor</td>
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<td>□ Add</td>
</tr>
<tr>
<td>□ Change</td>
<td>□ Change</td>
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<td>□ Delete</td>
<td>□ Inactivate</td>
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<th>5. Implementation Date (semester/year)</th>
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<td>From: Fall 2014 To: /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: School of Social Work, Justice Center, School of Nursing, School of Allied Health, Mat-Su College, Kenai Peninsula College, Kachemak Bay Campus</td>
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</table>

<table>
<thead>
<tr>
<th>Initiator Name (typed): Laura W. Kelley</th>
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<tr>
<td>Date:________________</td>
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</table>

<table>
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<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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<th>7. Title and Program Description - Please attach the following:</th>
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<td>□ Cover Memo □ Catalog Copy in Word using the track changes function</td>
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<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>
<thead>
<tr>
<th>Initiator (faculty only)</th>
<th>Date</th>
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<tbody>
<tr>
<td>Laura W. Kelley</td>
<td></td>
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<th>Date</th>
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<th>Provost or Designee</th>
<th>Date</th>
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<tbody>
<tr>
<td>Approved</td>
<td></td>
</tr>
<tr>
<td>Disapproved</td>
<td></td>
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</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. Consultation with an advisor in the Human Service Department is highly recommended.

Complete 18 credits, 6 of which must be upper division from the following list: 18

- HUMS A101 Introduction to Human Services (3)
- HUMS A223 Introduction to Paraprofessional Counseling I (3)
- HUMS A224 Conflict and Collaborative Systems (3)
- HUMS A321 Diversity Issues in Human Services Practice (3)
- HUMS A322 Service Coordination in Human Services Practice (3)
- HUMS A324 Introduction to Paraprofessional Counseling II (3)
- HUMS A333 Alternative Dispute Resolution (3)
- HUMS A461 Crisis Intervention (3)

FACULTY

Jo Ann Bartley, Assistant Professor, jbartley@uaa.alaska.edu
Laura Kelley, Professor, lwkelley@uaa.alaska.edu
Lynn Paterna, Assistant Professor, lpaterna@uaa.alaska.edu
Ira Rosnel, Associate Professor, irrosnel@uaa.alaska.edu
1a. School or College
   CH College of Health

1b. Department
   Human Services

2. Complete Program Title/Prefix
   Bachelor of Human Services

3. Type of Program
   Choose one from the appropriate drop down menu:
   Undergraduate: or Graduate:
   Bachelor of Human Services
   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: 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)   Date
Laura Kelley
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
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.

• Receive satisfactory program services to include: academic advising, course offerings, practicum experiences and appropriate faculty and staff support. Apply research and program evaluation techniques appropriate to the field of human services.

Admission Requirements

Complete the requirements for Application and Admission to Baccalaureate Degree Programs in Chapter 7. Students must complete an Associate of Applied Science, degree in Human Services degree from an accredited institution recognized by UAA. See the Human Services website at www.ualaska.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 (36 credits)*

   HUMS A321 Diversity Issues in Human Services Practice 3
   HUMS A322 Service Coordination in Human Services Practice 3
   HUMS A332 Human Services Administration 3
   HUMS A333 Alternative Dispute Resolution 3
   HUMS A412 Ethical Issues in Human Services Practice 3
   HUMS A414 Rural Treatment Strategies/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 A434 Advanced Counseling for Human Services Professionals 3
   HUMS A434 Group Facilitation for Human Services Professionals 3
   HUMS A461 Crisis Intervention 3
   HUMS A495A Human Services Practicum III 3
   HUMS A495B Human Services Practicum IV/Capstone 3

   * Note: Cannot be used in emphasis areas as 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.

   HUMS A333 Alternative Dispute Resolution (3)

*Note: Each Human Services 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 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 120-121 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:

• 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 Application and Admission to Baccalaureate Programs in Chapter 7. Students must complete an Associate of Applied Science degree in Human Services 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 (36 credits).*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HUMS A321</td>
<td>Diversity Issues in Human Services Practice</td>
<td>3</td>
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<tr>
<td>HUMS A322</td>
<td>Service Coordination in Human Services Practice</td>
<td>3</td>
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<tr>
<td>HUMS A352</td>
<td>Human Services Administration</td>
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<td>HUMS A412</td>
<td>Ethical Issues in Human Services Practice</td>
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<td>HUMS A414</td>
<td>Advanced Case Management for Human Services Professinals</td>
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<td>Advanced Human Services Systems</td>
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<td>HUMS A417</td>
<td>Substance Abuse Counseling for Human Services Professionals</td>
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</tr>
<tr>
<td>HUMS A420</td>
<td>Introduction to Program Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>HUMS A435</td>
<td>Individual and Group Facilitation</td>
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<td>HUMS A461</td>
<td>Crisis Intervention</td>
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<tr>
<td>HUMS A495A</td>
<td>Human Services Practicum III</td>
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<tr>
<td>HUMS A496</td>
<td>Human Services Capstone</td>
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</table>

* Note: Cannot be used as selectives.

2. Complete 6 credits from the following list of selectives. 6

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HUMS A333</td>
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<td>HUMS A334</td>
<td>Family Mediation</td>
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<td>HUMS A350</td>
<td>Men and Masculinity</td>
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</tr>
<tr>
<td>HUMS A351</td>
<td>Career Development for Human Services Professionals</td>
<td>3</td>
</tr>
<tr>
<td>HUMS A416</td>
<td>Substance Abuse and the Older Adult</td>
<td>3</td>
</tr>
</tbody>
</table>

3. A total of 121 credits is required for the degree, of which 42 credits must be upper division.
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.
1a. School or College
CH College of Health

1b. Department

2. Complete Program Title/Prefix
College of Health Inter-professional/ COHI

3. Type of Program
Choose one from the appropriate drop down menu: Undergraduate: or Graduate:
Other: specify type in box 2

This program is a Gainful Employment Program:  No

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

PREFIX
☐ Add
☐ Change
☐ Inactivate

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

6a. Coordination with Affected Units
Department, School, or College: College of Health
Initiator Name (typed): Randy Magen
Initiator Signed Initials: __________ Date: __________

6b. Coordination Email submitted to Faculty Listserv (uaa-faculty@lists.uaa.alaska.edu) Date: 12/23/2013

6c. Coordination with Library Liaison Date: 12/23/2013

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

8. Justification for Action
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.

Initiator (faculty only) Date
Initiator (TYPE NAME) Date
Dean/Director of School/College Date
Undergraduate/Graduate Academic Board Chair Date
Provost or Designee Date
Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

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Abbreviated Title for Transcript (30 character)

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<td>CEU</td>
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<tr>
<td>Professional Development</td>
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<th>Add or Change or Delete</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)
- Course Number
- Contact Hours
- Repeat Status
- Cross-Listed/Stacked
- Course Prerequisites
- Co-requisites
- Registration Restrictions
- General Education Requirement

<table>
<thead>
<tr>
<th>9. Repeat Status No</th>
<th># of Repeats</th>
<th>Max Credits</th>
</tr>
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<table>
<thead>
<tr>
<th>10. Grading Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-F</td>
</tr>
<tr>
<td>P/NP</td>
</tr>
<tr>
<td>NG</td>
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<table>
<thead>
<tr>
<th>11. Implementation Date</th>
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</thead>
<tbody>
<tr>
<td>semester/year</td>
</tr>
<tr>
<td>From: Fall/2014</td>
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<td>To: 99/9999</td>
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<table>
<thead>
<tr>
<th>12. Cross Listed with</th>
<th>Stacked with</th>
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Cross-Listed Coordination Signature

<table>
<thead>
<tr>
<th>13a. Impacted Courses or Programs: List any programs or college requirements that require this course.</th>
</tr>
</thead>
<tbody>
<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.aaa.alaska.edu/governance">www.aaa.alaska.edu/governance</a>.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Geomatics UC</td>
<td>N/A</td>
<td>T.B. Quimby</td>
</tr>
<tr>
<td>2. Geomatics BS</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: __________

<table>
<thead>
<tr>
<th>13b. Coordination Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>submitted to Faculty Listserv: <a href="mailto:uaa-faculty@lists.aaa.alaska.edu">uaa-faculty@lists.aaa.alaska.edu</a></td>
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</table>

<table>
<thead>
<tr>
<th>13c. Coordination with Library Liaison</th>
</tr>
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<tbody>
<tr>
<td>Date: 1/13/14</td>
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<table>
<thead>
<tr>
<th>14. General Education Requirement</th>
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<tbody>
<tr>
<td>Mark appropriate box:</td>
</tr>
<tr>
<td>Oral Communication</td>
</tr>
<tr>
<td>Written Communication</td>
</tr>
<tr>
<td>Quantitative Skills</td>
</tr>
<tr>
<td>Social Sciences</td>
</tr>
<tr>
<td>Natural Sciences</td>
</tr>
<tr>
<td>Integrative Capstone</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>15. Course Description (suggested length 20 to 50 words)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilizes techniques of research, design, data compilation, analysis, and mapping learned throughout the Geomatics curriculum to complete a Geomatics capstone project. Addresses professional standards and ethical concerns for Geomatics professionals.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>16a. Course Prerequisite(s) (list prefix and number or test code and score)</th>
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<tbody>
<tr>
<td>[GEO A357 and GEO A466 and GEO A368] or [GEO A357 and GEO A466 and GIS A367 and GIS A458] or [GIS A357 and GIS A458] and [ESM A450 or concurrent enrollment] with minimum grade of C.</td>
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</table>

<table>
<thead>
<tr>
<th>16b. Co-requisite(s) (concurrent enrollment required)</th>
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<table>
<thead>
<tr>
<th>16c. Automatic Restriction(s)</th>
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<tr>
<td>College</td>
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</table>

<table>
<thead>
<tr>
<th>16d. Registration Restriction(s) (non-codable)</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>17.</th>
<th>Mark if course has fees Std CoEng fee</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>18.</th>
<th>Mark if course is a selected topic course</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>19. Justification for Action</th>
</tr>
</thead>
<tbody>
<tr>
<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>
</tr>
</tbody>
</table>

Initiator (faculty only)
Jeff Hollingsworth
Initiator (TYPE NAME)

<table>
<thead>
<tr>
<th>Approved</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disapproved</td>
<td>Dean/Director of School/College</td>
</tr>
<tr>
<td>Approved</td>
<td>Date</td>
</tr>
<tr>
<td>Disapproved</td>
<td>Undergraduate/Graduate Academic Board Chair</td>
</tr>
<tr>
<td>Approved</td>
<td>Date</td>
</tr>
<tr>
<td>Disapproved</td>
<td>Provost or Designee</td>
</tr>
</tbody>
</table>
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: Utilizes techniques of research, design, data compilation, analysis, and mapping learned throughout the Geomatics curriculum to complete a Geomatics capstone project. Addresses professional standards and ethical concerns for Geomatics professionals.
   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 A366] or [GEO A357 and GEO A466 and GIS A367 and GIS A458] or [GIS A367 and GIS A458]] and [ESM A450 or concurrent enrollment] with minimum grade of C.
      Corequisite:
   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 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. 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. Surveyors’ 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:


Coastal Mapping

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

Principles of coastal mapping. Spatial reasoning and information applications to coastal mapping projects.

**Course Prerequisite(s)**

GIS A366 with a minimum grade of C.

**Co-requisite(s)**

(Concurrent enrollment required)

**Automatic Restriction(s)**

- College
- Major
- Level

**Registration Restriction(s)**

(Non-codable)

**General Education Requirement**

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

**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.
<table>
<thead>
<tr>
<th>Course Being Changed:</th>
<th>GIS A433</th>
<th>Coastal Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impacted Program or Course</td>
<td>Date of Notification</td>
<td>Chair/Coordinator Contacted</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>
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:


## Course Action Request

**University of Alaska Anchorage**

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

### 1. School or College

EN SOENGR

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
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<tbody>
<tr>
<td>EN SOENGR</td>
<td>choose one</td>
<td>Geomatics</td>
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### 2. Course Prefix

GIS

<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>
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<tr>
<td>GIS</td>
<td>A458</td>
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</table>

### 5b. Contact Hours

(Lecture + Lab) (2+2)

### 6. Complete Course Title

Spatial Data Management

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

- 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](http://www.uaa.alaska.edu/governance).

### 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)

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.

### 16a. Course Prerequisite(s)

- 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 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:** _______

**Date:** __________________

**Caixia Wang**

**Initiator (TYPE NAME)**

- Approved
- Disapproved

- Date

**Department Chair**

- Approved
- Disapproved

- Date

**Undergraduate/Graduate Academic Board Chair**

- Approved
- Disapproved

- Date

**Provost or Designee**

- Approved
- Disapproved

- Date
## Box 13a

<table>
<thead>
<tr>
<th>Impacted Program or Course</th>
<th>Date of Notification</th>
<th>Chair/Coordinator Contacted</th>
</tr>
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<tbody>
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<tr>
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<td>Bart Quimby</td>
</tr>
<tr>
<td>Geographic Information Systems Minor</td>
<td>1/13/14</td>
<td>Bart Quimby</td>
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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:


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 strengthened 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 choose 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: 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: Fall/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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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
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 (18 credits):

   - ENGR A161 Engineering Practices II 3
   - GIS A101 Introduction to Geographic Information Systems 3
   - GIS A201 Intermediate Geographic Information Systems 3
   - GIS A301 Spatial Data Structures 3
   - GIS A366 Spatial Analysis 3
   - GIS A458 Spatial Data Management 3
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 (18 credits):

- ENGR A161 Engineering Practices II 3
- GIS A101 Introduction to Geographic Information Systems 3
- GIS A201 Intermediate Geographic Information Systems 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 A459 Spatial Data Management (3)
- GIS A468 Integration of Geomatic Technologies (3)
- GIS A490 Selected Advanced Topics in GIS (1-6)
1a. School or College  
EN SOENGR  

1b. Department  
Geomatics  

2. Complete Program Title/Prefix  
Undergradulate Certificate, Geographic Information Systems  

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: Fall/2014  
To: 99/999  

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Department, School, or College: ENGR  
Initiator Name (typed): T.B. Quimby  
Initiator Signed Initials: _________  
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Gennady Gienko  
Initiator (TYPE NAME)  

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☐ Disapproved  

Dean/Director of School/College  
Date  
Undergraduate/Graduate Academic Board Chair  
Date  
Provost or Designee  
Date  

Department Chair  
Date  
College/School Curriculum Committee Chair  
Date
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 requirements for Application and Admission to Undergraduate Certificates and Associate Degree Programs in Chapter 7.

Course Requirements

Certain courses require prerequisites or faculty permission. Call the department at (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:
   
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<td>or</td>
<td></td>
<td></td>
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<tr>
<td>PHYS A212</td>
<td>General Physics II (3)</td>
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</tr>
<tr>
<td>PHYS A212L</td>
<td>General Physics II Laboratory (1)</td>
<td></td>
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2. Complete the following required courses (24 credits):

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<td>GIS A101</td>
<td>Introduction to Geographic Information Systems</td>
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<tr>
<td>GIS A201</td>
<td>Intermediate Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GIS A301</td>
<td>Spatial Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>GIS A366</td>
<td>Spatial Analysis</td>
<td>3</td>
</tr>
<tr>
<td>GIS A367</td>
<td>Image Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>
3. Complete 3 credits from the following elective courses:

- GEO A354  City and Regional Planning (3)
- GEO A433  Hydrographic Surveying (3)
- GEO A490  Selected Advanced Topics in Geomatics (1-6)
- GIS A369  Land Information Systems (3)
- GIS A370  GIS and Remote Sensing for Natural Resources (3)
- GIS A433  Coastal Mapping (3)

4. 

5. A total of 35 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 for Application and Admission to Undergraduate Certificates and Associate Degree Programs in Chapter 7.

Course Requirements
Certain courses require prerequisites or faculty permission. Call the department at (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 (23-24 credits):
   GEO A137GIS A101 Principles of MappingIntroduction to GIS  3
   GEO A167 A351 Remote Sensing and Image Analysis  43
   GEO A460 Geomatics Design Capstone Project  3
   GIS A101 Introduction to Geographic Information Systems  3
   GIS A268 A201 Elements of Intermediate Geographic Information Systems (GIS)  43
   GIS A301 Spatial Data Structures  3
   GIS A366 Spatial Information Analysis and Modeling  3
   GIS A367 GIS and Remote SensingImage Analysis  3
GIS A458  Design and Management of Spatial Data Management  3
GIS A458  Spatial Data Management  3

2.3. Complete 9-3 credits from the following elective courses:

GEO A354  City and Regional Planning (3)
GEO A433  Hydrographic Surveying (3)
GEO A490  Selected Advanced Topics in Geomatics (1-6)
GIS A295  Internship in Geographic Information Systems I (3)
GIS A295  Internship in Geographic Information Systems I (3)
or
GIS A495  Internship in Geographic Information Systems II (3)
GIS A369  Land Information Systems (3)
GIS A370  GIS and Remote Sensing for Natural Resources (3)
GIS A371  GIS Applications I (3)
GIS A433  Coastal Mapping (3)
GIS A468  Integration of Geomatics Technologies (3)
GIS A471  GIS Applications II (4)
GIS A490  Selected Advanced Topics in GIS (1-6)

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 24-35 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:  
Associate of Applied Science  
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: Fall/2014  To: 99/999

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Department, School, or College:  ENGR

Initiator Name (typed):  T.B. Quimby  
Initiator Signed Initials: _________

Date:________________

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Gennady Gienko  
Initiator (TYPE NAME)

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☑ Approved  ☐ Disapproved  Provost or Designee  Date

☑ Approved  ☐ Disapproved  Department Chair  Date

☑ Approved  ☐ Disapproved  College/School Curriculum Committee Chair  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 requirements for Application and Admission to Undergraduate Certificate and Associate Degree Programs in Chapter 7.

General University Requirements
Complete the Associate of Applied Science 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 of C or better in the major requirement courses during their initial enrollment may attempt to earn a satisfactory grade one additional time, on a space-available basis. 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 3-4 credits from the following science electives: 3-4
   BIOL A115 Fundamentals of Biology I (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)
3. Complete the following required courses (43 credits):

- BA A300 Organizational Theory and Behavior 3
- ENGL A212 Technical Writing 3
- ENGR A161 Engineering Practices II 3
- GEO A146 Geomatics Computations I 3
- GEO A156 Fundamentals of Surveying 3
- GEO A157 Computer-Aided Drafting for Surveyors 3
- GEO A266 Advanced Surveying 3
- GEO A267 Boundary Law I 3
- GIS A101 Introduction to Geographic Information Systems 3
- GIS A201 Intermediate Geographic Information Systems 3
- GIS A351 Remote Sensing 3
- MATH A109 Precalculus † 6
- PEP A110 Remote First Aid (1) 1
  or
- PEP A112 First Aid and CPR for Professionals (1)
- PHIL A305 Professional Ethics 3

† MATH A107 College Algebra and MATH A108 Trigonometry (both courses) may be substituted for MATH A109 Precalculus.

4. A minimum of 60 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
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 for Application and Admission to Undergraduate Certificate and Associate Degree Programs 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 of C or better 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 48 credits in Physics:
   
   - PHYS A123  Basic Physics I (3)
   - PHYS A123L  Basic Physics I Laboratory (1)
   - or
   - PHYS A124  Basic Physics II (3)
   - PHYS A124L  Basic Physics II Laboratory (1)

2. Complete 3-4 credits from the following science electives: 3-4
   
   - BIOL A115  Fundamentals of Biology I (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):

- GEOL A111 Physical Geography (4)
- GEOL A115 Environmental Geology (3)

CSE A102 Introduction to Computer Systems 1
BA A300 Organizational Theory and Behavior 3
ENGL A212 Technical Writing 3
ENGR A161 Engineering Practices II 3
GEO A137 Principles of Mapping 3
GEO A146 Surveying Geomatics Computations 1 3
GEO A155 A156 Fundamentals of Surveying 3
GEO A157 Analytical and Digital Cartography, Computer-Aided Drafting for Surveyors 3
GEO A158 Geomatics Computer Fundamentals 1
GEO A167 Remote Sensing and Image Analysis 4
GEO A248 Digital Terrain Cartography 3
GEO A256 Municipal and Civil Geomatics 3
GEO A257 Elements of Photogrammetry 3
GEO A266 Advanced Surveying 3
GEO A267 Boundary Law I 43
GIS A101 Introduction to Geographic Information Systems 3
GIS A201 Intermediate Geographic Information Systems 3
GIS A351 Remote Sensing 3
GIS A268 Elements of Geographic Information Systems (GIS) 4
MATH A109 Precalculus † 6
PEP A110 Remote First Aid (1) 1
or
PEP A112 First Aid and CPR for Professionals (1)
PHIL A305 Professional Ethics 3

† MATH A107 College Algebra and MATH A108 Trigonometry (both courses) may be substituted for MATH A109 Precalculus.

3.4. A total minimum of 60 credits are required for the degree. Electives to total of 63 credits.
**1a. School or College**  
EN SOENGR

**1b. Department**  
Geomatics

**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  
☒ No

**4. Type of Action:**  
PROGRAM:  
- Add  
☒ Change  
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</tr>
</thead>
</table>
Bachelor of Science, Geomatics

Educational Objectives and Program Student Learning Outcomes

Program Educational Objectives

Within few years of graduation, graduates of the Bachelor of Science in Geomatics program:

1. Have attempted the AELS Board’s Fundamentals of Surveying examination, if they are pursuing careers in the surveying area.
2. Have attempted equivalent professional certification or registration, e.g., CP, or GISP, as appropriate for their career path, if they are pursuing careers in a non-surveying area.
3. Obtain membership in one or more professional organizations relevant to their career of choice.
4. 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. Continue their professional development by participating in professional development courses or sessions, or complete higher education courses.
6. 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 Application and Admission to Baccalaureate Program requirements in Chapter 7.

Academic Progress

A student who is unable to earn a satisfactory grade of C or better in the major requirement courses during their initial enrollment may attempt to earn a satisfactory grade one additional time, on a space-available basis. 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 8 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 I (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 and Behavior 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
   GEO A156 Fundamentals of Surveying 3
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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO A246</td>
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<tr>
<td>GEO A265</td>
<td>Spatial Data Adjustments I</td>
<td>3</td>
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<tr>
<td>GEO A267</td>
<td>Boundary Law I</td>
<td>3</td>
</tr>
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<td>GEO A359</td>
<td>Geodesy and Map Projections</td>
<td>3</td>
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<td>GEO A460</td>
<td>Geomatics Capstone Project</td>
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<td>GEO A466</td>
<td>Geopositioning</td>
<td>3</td>
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<tr>
<td>GIS A101</td>
<td>Introduction to Geographic Information Systems</td>
<td>3</td>
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<tr>
<td>GIS A201</td>
<td>Intermediate Geographic Information Systems</td>
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<tr>
<td>GIS A351</td>
<td>Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>PHIL A305</td>
<td>Professional Ethics</td>
<td>3</td>
</tr>
</tbody>
</table>

5. Complete the specified credits in one of the concentration areas:

**Surveying Concentration**

a. Complete the following (19 credits):

- GEO A157 Computer-Aided Drafting 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 A457 Boundary Law II 3
- PEP A110 Remote First Aid (1) or 1
- PEP A112 First Aid and CPR for Professionals (1)

b. Complete 6 credits from the following Geomatics electives: 6

- GEO A354 City and Regional Planning (3)
- GEO A355 Land Development and Design (3) GEO A410 Airborne LiDAR Surveying (3)
- GEO A420 High Density Spatial Data Analysis (3)
- GEO A433 Hydrographic Surveying (3)
- GEO A490 Selected Advanced Topics in Geomatics (1-6)
- GIS A301 Spatial Data Structures (3)
- GIS A366 Spatial Analysis (3)
- GIS A367 Image Analysis (3)
- GIS A433 Coastal Mapping (3)
- GIS A458 Spatial Data Management (3)

**Geospatial Concentration**

a. Complete the following (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  Spatial Data Management  3

b.  Complete 6 credits from the following:  6
CSCE A201  Computer Programming I (4)
CSCE A202  Object-Oriented Programming (3)
CSCE A360  Database Systems (3)
GEO A157  Computer-Aided Drafting 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 A366  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 minimum of 120 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

Within few years of graduation, graduates of the Bachelor of Science in Geomatics program:

1. Have attempted the AELS Board’s Fundamentals of Surveying examination, if they are pursuing careers in the surveying area.
2. Have attempted equivalent professional certification or registration, e.g., CP, or GISP, as appropriate for their career path, if they are pursuing careers in a non-surveying area.
3. Obtain membership in one or more professional organizations relevant to their career of choice.
4. Be employed in the fields within the geomatics disciplines, including surveying of various types, mapping and cartography, GIS/ES, remote sensing, geodesy, photogrammetry or hydrographic surveying.
5. Continue their professional development by participating in professional development courses or sessions, or complete higher education courses.
6. 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 Application and Admission to Baccalaureate Program Requirements requirements in Chapter 7.

Academic Progress

A student who is unable to earn a satisfactory grade of C or better 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, or 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 I (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 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.

3. Complete all of the following (24 credits):
   - BAJUST A241  Business Law 1 3
   - BA A390  Organizational Theory and Behavior 3
   - ENGL A212  Technical Writing 3
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
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<td>ENGR A161</td>
<td>Engineering Practices II</td>
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<td>FSM A450</td>
<td>Economic Analysis and Operations</td>
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<tr>
<td>GEO A127</td>
<td>Principles of Mapping</td>
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<tr>
<td>GEO A146</td>
<td>Surveying Computations</td>
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<td>GEO A155, A156</td>
<td>Fundamentals of Surveying</td>
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<td>GEO A157</td>
<td>Analytical and Digital Cartography</td>
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<td>GEO A157</td>
<td>Remote Sensing and Image Analysis</td>
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<td>GEO A246</td>
<td>Geomatics Computations</td>
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<td>GEO A246</td>
<td>Geomatics Computations</td>
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<td>Professional Development II</td>
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<td>GEO A293</td>
<td>Professional Development III</td>
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<td>Geodesy and Map Projections</td>
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<td>Geomatics Adjustment and Analysis</td>
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<td>Boundary Law II</td>
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<td>Geomatics Design Capstone Project</td>
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<td>GEO A396</td>
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<td>GIS A101</td>
<td>Introduction to Geographic Information</td>
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<td>GIS A201</td>
<td>Intermediate Geographic Information Systems</td>
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<td>GIS A251</td>
<td>Remote Sensing</td>
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<td>GIS A268</td>
<td>Elements of Geographic Information Systems</td>
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<td>GIS A286</td>
<td>Spatial Information Analysis and Modeling</td>
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<td>Integration of Geomatics Technologies</td>
<td>3</td>
</tr>
<tr>
<td>PHIL A305</td>
<td>Professional Ethics</td>
<td>3</td>
</tr>
</tbody>
</table>

**4.5. Complete at least 11 credits by specified credits in one of the emphasis concentration areas:**

### Surveying Emphasis Concentration

- **a. Complete the following (4.19 credits):**
  - GEO A152 | Computer-Aided Drafting for Surveyors | 3 |
  - GEO A226 | Engineering Surveying                  | 3 |
  - GEO A266 | Advanced Surveying                     | 3 |
  - GEO A366 | Spatial Data Adjustments II             | 3 |
  - GEO A369 | Cadastral Surveys                       | 3 |
  - GEO A430 | Hydrographic Surveying                 | 3 |
  - GEO A457 | Boundary Law II                         | 3 |
PEP A110    Remote First Aid (1)
or
PEP A112    First Aid and CPR for Professionals (1)

b. Complete 29 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 Data 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 SensingImage 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)

Geographic Information Systems (GIS) Emphasis

Geospatial Concentration

a. Complete the following (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)

b. 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    Computer-Aided Drafting 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 (2)
GEO A358  Programming for Digital Cartography (3)
GEO A366  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 (3)
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**

- 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

5.6. A total of 131 minimum of 120 credits are required for the degree of which 42 must be upper division.
## 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>AS CAS</td>
<td>ASSC Division of Social Science</td>
<td>GES</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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<th>5b. Contact Hours (Lecture + Lab)</th>
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### Complete Course Title

Environmental Field Methods

Abbreviated Title for Transcript (30 character)

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<th>6. Type of Course</th>
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<td>CEU</td>
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### Type of Action

- **Add**
- **Change**
- **Delete**

### Repeat Status No

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<td>P/NP</td>
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<tr>
<td>NG</td>
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### Implementation Date

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

### Cross Listed with

### Stacked with

### Cross-Listed Coordination Signature

### Course Description

Methods of data collection and basic analysis for environmental studies and other science majors. Will focus on the development of quantitative skills and tools used in science professions, with a particular emphasis on field-based data collection techniques. Course will utilize a hands-on approach that combines outdoor field labs with classroom-based analysis and group presentations.

### Course Prerequisite(s)

- ENVI A211 and ENVI A211L

### Co-requisite(s)

- STAT A252 or STAT A253

### Automatic Restriction(s)

- College Major
- Class Level

### Registration Restrictions

### General Education Requirement

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

### Course Prerequisites

### Test Score Prerequisites

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<th>16c. Automatic Restriction(s)</th>
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<td>College Major</td>
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<tr>
<td>Class Level</td>
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</table>

### Registration Restriction(s)

Completion of basic college-level skills (Tier I) and sophomore standing

### Mark if course has fees

<table>
<thead>
<tr>
<th>17. Mark if course is a selected topic course</th>
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</table>

### Justification for Action

Course will fill current gap in major where students graduating with a bachelor's degree in Environmental Studies do not have an opportunity to learn environmental field methods or analysis techniques required for employment in the profession.

### Initiator Name (typed):

Audrey Taylor

Initiator Signed Initials: ___

Initiator (faculty only)

Date:

Dean/Director of School/College

Date:

Undergraduate/Graduate Academic

Date:

Board Chair

Date:

Provost or Designee

Date:

Approved

Disapproved
Date: 29 October 2013

I. Course Information
   A. College: Arts and Sciences
   B. Course Prefix: ENVI
   C. Course Number: A370
   D. Credits/Contact: 3 credits, 3+0
   E. Course Title: Environmental Field Methods
   F. Grading Basis: A-F
   G. Implementation Date: Fall 2014
   H. Cross-listed/Stacked: N/A
   I. Course Description: Methods of data collection and basic analysis for environmental studies and other science majors. Will focus on the development of quantitative skills and tools used in science professions, with particular emphasis on field-based data collection techniques. Course will utilize a hands-on approach that combines outdoor field labs with classroom-based analysis and group presentations.
   J. Course Prerequisites: ENVI A211 and ENVI A211L
   K. Course Co-requisites: STAT A252 or STAT A253
   L. Other Restrictions: Sophomore standing
   M. Registration Restrictions: Completion of basic college-level skills (Tier I)
   N. Course Fees: $50

II. Instructional Goals and Student Learning Outcomes
   A. Instructional Goals. The instructor will:
      1. Define terms and methods typically used to describe the results of environmental field studies in the primary literature for the environmental studies profession.
      2. Provide students with exposure to a suite of sampling designs and analysis methods that are frequently used in environmental field studies.
      3. Instill in students an understanding of the importance of appropriate study design (particularly with respect to spatial and temporal scale) in advance of environmental data collection.
      4. Prepare realistic field study scenarios that enable students to practice their critical thinking and problem solving skills while applying knowledge gained via goals 1-3.
      5. Provide students with opportunities to collect and analyze environmental data from their local environment, thereby increasing their understanding of southcentral Alaskan ecosystems.
      6. Develop students’ understanding of Microsoft Excel, a useful data manipulation and analysis tool, as well as provide exposure to other common tools and equipment used by the environmental studies profession.
      7. Provide students with opportunities to enhance their interpersonal communication and writing skills by requiring that lab exercises be completed in teams and with written, professional reports or group presentations.
B. Student Learning Outcomes and Assessment Methods

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Methods</th>
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<tbody>
<tr>
<td>Name and define important terms related to environmental field sampling and analysis.</td>
<td>Classroom discussions, exams</td>
</tr>
<tr>
<td>Compare and contrast the use of common field sampling designs in environmental studies.</td>
<td>Classroom discussions, exams</td>
</tr>
<tr>
<td>Articulate the importance of appropriately scaled sampling design for environmental field studies.</td>
<td>Classroom discussions, exams</td>
</tr>
<tr>
<td>Formulate an appropriate approach to data collection and analysis for a given environmental field scenario in southcentral Alaska.</td>
<td>Classroom discussions, written assignments, oral presentations, exams</td>
</tr>
<tr>
<td>Use Microsoft Excel to input, organize, and analyze environmental field data.</td>
<td>Written assignments, oral presentations</td>
</tr>
<tr>
<td>Work in teams to prepare professional reports or presentations detailing results of class exercises.</td>
<td>Written assignments, oral presentations, peer reviews</td>
</tr>
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III. Course Level Justification

This course introduces students to the use of standard sampling designs and statistical methods to collect and analyze environmental field data. It assumes students have a working understanding of hypothesis formulation, scientific data collection procedures, data summarizing techniques, and introductory statistics. Students would acquire these skills in the 100- and 200-level ENVI and STAT courses required for enrollment in this course.

IV. Course Outline

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<tr>
<th>Week</th>
<th>Topic</th>
<th>Labs</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction: hypotheses, metrics, sampling design, space &amp; time</td>
<td>Operationalizing variables; Excel practice</td>
</tr>
<tr>
<td>2</td>
<td>Sampling diversity &amp; abundance: linear designs</td>
<td>Biodiversity transects</td>
</tr>
<tr>
<td>3</td>
<td>Sampling diversity &amp; abundance: points</td>
<td>Bird point counts &amp; mistnetting</td>
</tr>
<tr>
<td>4</td>
<td>Sampling diversity &amp; abundance: area designs</td>
<td>Forest inventory</td>
</tr>
<tr>
<td>5</td>
<td>Wetland and aquatic sampling</td>
<td>Wetland habitat assessment – FIELD TRIP</td>
</tr>
<tr>
<td>6</td>
<td>Measuring yields</td>
<td>Maximum sustained yield: timber or fish</td>
</tr>
<tr>
<td>7</td>
<td>Defining environmental context</td>
<td>Ecological site characterization</td>
</tr>
<tr>
<td>8</td>
<td>Measuring human impacts</td>
<td>Recreation impact assessment</td>
</tr>
<tr>
<td>9</td>
<td>Mid-term exam; data entry &amp; proofing</td>
<td>Excel spreadsheet design &amp; manipulation</td>
</tr>
<tr>
<td>10-11</td>
<td>Statistical background for environmental science</td>
<td>Sampling: accuracy, precision, and bias</td>
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<tr>
<td></td>
<td></td>
<td>Probability and statistical confidence</td>
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<tr>
<td>12</td>
<td>Basic data analysis techniques</td>
<td>Comparing means and variance</td>
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<tr>
<td>13</td>
<td>Wildlife population dynamics</td>
<td>Excel-based population dynamics</td>
</tr>
<tr>
<td>14</td>
<td>Maps: compass use, projections, GPS data, GIS analysis</td>
<td>Topo maps &amp; compass; GIS application</td>
</tr>
<tr>
<td>15</td>
<td>Library research methods; final exam</td>
<td>Library research for final presentation</td>
</tr>
<tr>
<td>Finals</td>
<td>Final project presentations</td>
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</table>
VI. Suggested Texts
There are no suggested texts for this course; instructor will provide introductory powerpoint presentations and lab handouts for weekly exercises. No textbook exists that will cover the desired material at the desired depth for this course.

VII. Bibliography


Reynolds, H.L., E.S. Brondizio, and J.M. Robinson, eds. 2010. Teaching environmental literacy across campus and across the curriculum. Indiana University Press, Bloomington, IN.

Date: 19 December 2013

To: College of Arts and Sciences, Course and Curriculum Committee
Undergraduate Academic Board
Faculty Senate

From: Dorn Van Dommelen, International Studies

The International studies program in the College of Arts and Sciences is proposing a number of changes to its B.A. major. These changes are being made in response to a student survey on the degree program and faculty interest in major development that would better prepare students for post-graduate employment that required certain “applied” skills, particularly in the social sciences.

The most significant change to the major program will be the removal of four specific regional tracks, to be replaced by one, general regional track and an “applied global studies” track. This track would prepare students to find employment in governmental, inter-governmental, or non-governmental agencies or organizations, particularly those that demand a background in social science, health, and ESL instruction. In addition, the major will now require an international/intercultural experience.

Less significant changes include a number of small changes in course selections within the social science and humanities selections and the expansion of the capstone category to require two courses, one in the humanities and one in the social sciences. In addition, language requirements within the major will be tightened.

The changes to the major have also necessitated the removal of one program outcome and the addition of another. Accordingly, a revised educational effectiveness plan has been developed.

These changes were approved by the International Studies Curriculum Committee.
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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Initiator Signed Initials: __________

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North Pacific Studies

3. Type of Program  
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- Graduate:  
- Minor  
- CHOOSE ONE

This program is a Gainful Employment Program:  
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- No

4. Type of Action:  
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- PREFIX  
- Add  
- Change  
- Delete  
- Inactivate

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From: Fall/2014  
To: Fall/9999

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Initiator Name (typed): Dorn Van Dommelen  
Initiator Signed Initials: _________  
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Date: 19 Dec 13

6c. Coordination with Library Liaison  
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- Cover Memo  
- Catalog Copy in Word using the track changes function

8. Justification for Action  
Changes needed due to changes in the International Studies major.

Initiator (faculty only)  
Dorn Van Dommelen  
Initiator (TYPE NAME)

Approved  
Disapproved  
Date  
Dean/Director of School/College  
Date

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Date  
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Date

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This program is a Gainful Employment Program:  
☐ Yes or ☒ No

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<tr>
<td>Student demand and faculty desire for more &quot;applied&quot; curriculum, particularly in the social sciences. See also the cover memo.</td>
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| initiator (faculty only) Date |
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| ☐ Approved | ☐ Disapproved |

Dean/Director of School/College  
Date: __________

| Department Chair Date |
|-----------------------|-----------------------|
| ☐ Approved | ☐ Disapproved |

Undergraduate/Graduate Academic Board Chair  
Date: __________

| College/School Curriculum Committee Chair Date |
|-----------------------------------------------|-----------------------------|
| ☐ Approved | ☐ Disapproved |

Provost or Designee  
Date: __________
The International Studies program at UAA prepares students to be global citizens in an interdependent world. International and intercultural understanding and competency are essential in all aspects of life and work, and this program seeks to prepare students to be contributing members of the international community.

The interdisciplinary Bachelor of Arts in International Studies provides students with the analytical skills and cross-cultural sensitivities required of informed, global citizens. Core courses introduce students to different modes of enquiry and understanding and provide the foundation for a comparative approach to issues across regions, societies, and cultures. The program includes a regional track that focuses the student on a particular language and region or an applied global studies track that prepares students to pursue professional opportunities in international development, education, and health. Two program capstone courses require students to apply acquired analytical skills and modes of enquiry across regions, societies, and cultures in a comparative examination of various topics.

To further develop their global competence, students majoring in International Studies must participate in study abroad experience or another international/intercultural experience.

Students who complete a bachelor’s of International Studies will gain an understanding of the challenges and complexities of cross-cultural interactions in an increasingly interconnected world.

**Bachelor of Arts, International Studies**

**Program Student Learning Outcomes**

The specific education outcomes that support program objectives are to produce graduates who will be able to:

- Demonstrate cross-cultural understanding through language study.
- Demonstrate critical thinking about values, attitudes, and practices in an international context.
- Demonstrate an ability to analyze international issues and challenges and apply integrative multi-disciplinary tools to describe and explain them.
- Demonstrate effective written communication.

**Honors in International Studies**

Students majoring in International Studies are eligible to graduate with honors if they satisfy the following requirements:

1. Meet the requirements for Graduation with Honors as listed in Chapter 7.
2. Meet the requirements for a Bachelor of Arts in International Studies.
3. Maintain a grade point average of 3.80 or above in courses applicable to the degree requirements.
4. Complete one course each from Major Requirements 2 and 3 with grade of A.

**Admission Requirements**

Complete the Application and Admission to Baccalaureate Programs requirements in Chapter 7.
Graduation Requirements

Students must complete the following graduation requirements:

A. General University Requirements

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

B. General Education Requirements

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

C. College of Arts and Sciences Requirements

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

D. Major Requirements

1. Complete the following core courses (15 credits):

   Introductory Survey
   - GEOG/INTL A101: Local Places/Global Regions: An Introduction to Geography (3)

   Social Sciences Selection (6 credits)
   - EDFN A304: Comparative Education (3)
   - HS A230: Introduction to Global Health (3)
   - JUST A365: Comparative Justice Systems (3)
   - PS A102: Introduction to Political Science (3)
   - PS A301: Comparative Political Economy (3)

   Humanities and Fine Arts Selection (6 credits)
   - ART A262: History of Western Art II (3)
   - ENGL A202: Masterpieces of World Literature II (3)
   - ENGL A440: Topics in Comparative Literature (3)
   - JPC A404: Global Media and Communications Systems (3)
   - PHIL A212: History of Philosophy II (3)
   - PHIL A313: Eastern Philosophy and Religion (3)
   - PHIL A314: Western Religions (3)
   - THR A312: Representative Plays II (3)

2. Complete one of the following:

   - ENGL A343: Modern and Contemporary Literature (3)
   - HIST A390: Themes in World History (3)
   - PHIL A400: Ethics, Community, and Society (3)

3. Complete one of the following:

   - GEOG A390A: Topics in Global Geography (3)
   - SOC A380: Sociology of Globalization (3)

4. Choose an emphasis language from among the foreign languages offered at UAA and complete at least two semesters of 200-level language studies or above. Students in the Regional Studies Track must choose a language appropriate to one of the approved regions of study, which are specified below. (8 credits)

5. Complete one of the following tracks:

   Regional Studies Track (12 credits)

   Complete 12 credits in two subject areas from one of the approved regions of study – Europe, Northeast Asia, Russia or Comparative Regions.

   Europe: (Languages: French, German, Russian, Spanish)
ART A362  History of Modern Art (3)
ART A363  History of Contemporary Art (3)
ECON/HIST A360  Modern Economic History (3)
ENGL A305  National Literatures in English (with approved topic) (3)
ENGL A343  Modern and Contemporary Literature (if not taken for Major Requirement 3) (3)
ENGL A440  Topics in Comparative Literature (with approved topic) (3)
FREN A310  Selected Topics: Literary Trends and Traditions (with approved topic) (3)
FREN A432  Selected Topics: Studies in French/ Francophone Literature and Culture (with approved topic) (3)
GER A310  Selected Topics: Literary Trends and Traditions (with approved topic) (3)
HIST A314  Nineteenth Century Europe (3)
HIST A316  Twentieth Century Europe (3)
HIST A411  History of Modern Germany (3)
HIST A477  Senior Seminar (3)
HIST A486  Studies in Modern Europe (3)
PHIL A314  Western Religions (3)
PS A311  Comparative Politics (3)
PS A333  History of Political Philosophy II: Modern (3)
SPAN A320  Studies in Contemporary Cultures (with approved topic) (4)
SPAN A432  Selected Topics: Studies in Hispanic Literature and Culture (with approved topic) (3)
SPAN A490  Selected Topics: Hispanic Culture and Civilization (with approved topic) (3)
THR A412  History of Theatre II (3)
THR A492  Senior Seminar (with approved topic) (3)

Northeast Asia  (Languages: Japanese or Chinese)
ANTH A434  Peoples and Cultures of Northeast Asia (3)
ART A366  Asian Art (3)
HIST A320  The Rise, Fall, and Reinvention of the Samurai (3)
HIST A321  Modern China (3)
HIST A322  Modern Japan (3)
HIST A323  Communist China (3)
HIST/INTL/PS A325  Northeast Asia in 21st Century (3)
HIST A330  Russia in East Asia (3)
HIST A477  Senior Seminar (3)
JPN A310  Selected Topics in Advanced Japanese (with approved topic) (3)
PHIL A313  Eastern Philosophy and Religion (3)
PS A492  Senior Seminar in Politics (with approved topic) (3)
THR A492  Senior Seminar (with approved topic) (3)

Russia  (Language: Russian)
ANTH A434  Peoples and Cultures of Northeast Asia (3)
ART A492  Art History Seminar (with approved topic) (3)
HIST A330  Russia in East Asia (3)
HIST A423  Medieval Russian History (3)
HIST A424  Imperial Russian History (3)
HIST A425  History of the Soviet Union (3)
HIST/RUSS A427  Post-Soviet Culture and Society (3)
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**Comparative Regions (Languages: French or Spanish)**

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<tr>
<td>HIST A479</td>
<td>Studies in Modern American History (with approved topic)</td>
</tr>
<tr>
<td>INTL A315</td>
<td>Canada: Nation and Identity</td>
</tr>
<tr>
<td>PS A311</td>
<td>Comparative Politics</td>
</tr>
<tr>
<td>PS A322</td>
<td>United States Foreign Policy</td>
</tr>
<tr>
<td>PS A490</td>
<td>Studies in Politics (with approved topic)</td>
</tr>
<tr>
<td>SPAN A310</td>
<td>Selected Topics: Literary Trends and Traditions (with approved topic)</td>
</tr>
<tr>
<td>SPAN A320</td>
<td>Studies in Contemporary Cultures (with approved topic)</td>
</tr>
<tr>
<td>SPAN A390A</td>
<td>Selected Topics: Studies in Translation and Interpretation (with approved topic)</td>
</tr>
<tr>
<td>SPAN A432</td>
<td>Selected Topics: Studies in Hispanic Literature and Culture (with approved topic)</td>
</tr>
</tbody>
</table>

**Applied Global Studies Track**

Complete 12 credits from the following, choosing at least 6 credits from List A:

**List A:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON A337</td>
<td>Development Economics</td>
</tr>
<tr>
<td>ECON A363</td>
<td>International Economics</td>
</tr>
<tr>
<td>ENVI A490</td>
<td>Topics in Environment and Society (with approved topics in international environmental issues)</td>
</tr>
<tr>
<td>PS A321</td>
<td>International Relations</td>
</tr>
<tr>
<td>PS A323</td>
<td>International Organizations</td>
</tr>
<tr>
<td>PS A424</td>
<td>International Law</td>
</tr>
<tr>
<td>SOC A307</td>
<td>Demography</td>
</tr>
</tbody>
</table>

**List B:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA A487</td>
<td>International Management</td>
</tr>
<tr>
<td>EDFN A301</td>
<td>Foundations of Literacy and Language Development</td>
</tr>
<tr>
<td>EDFN A478</td>
<td>Issues in Alaska Native Education, K-12</td>
</tr>
<tr>
<td>ENGL A450</td>
<td>Linguistics and English Language Teaching</td>
</tr>
<tr>
<td>GEOG A375</td>
<td>Environmental Applications of Geographic Information Systems (GIS)</td>
</tr>
<tr>
<td>HS A326</td>
<td>Introduction to Epidemiology</td>
</tr>
<tr>
<td>HS A345</td>
<td>Planning and Implementation of Health Education Programs</td>
</tr>
</tbody>
</table>
6. International/Intercultural Experience

   All International Studies students are required to engage in an international or intercultural experience related to their
   program of study and the desired student learning outcomes of the program. Students are required to complete this
   requirement through a study abroad program, short-term study abroad, or an international internship or service-learning
   project. Students are required to submit a proposed plan to complete this requirement no later than the end of the junior
   year. The plan is approved by the Director of International Studies. Note: This experience may be completed locally.
   International travel is not required.

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

**Minor, International North Pacific Studies**

Students wishing to minor in International North Pacific Studies must complete the following requirements.

1. Complete the following courses:
   - HIST/INTL/PS A325 Northeast Asia in 21st Century 3
   - HIST A330 Russia in East Asia 3
   - INTL A315 Canada: Nation and Identity 3

2. Complete 8 credits in one of the following languages: Chinese, French, Japanese or Russian. 8

3. Complete one course from the following: 3

   - ANTH A416 Arctic Archeology (3)
   - ANTH A434 Peoples and Cultures of Northeast Asia (3)
   - ANTH A435 Northwest Coast Cultures (3)
   - ANTH A437 Eskimo Adaptations (3)
   - ART A366 Asian Art (3)
   - ART A492 Art History Seminar (with approved topic) (3)
   - ENGL A305 National Literatures in English (with approved topic) (3)
   - ENGL A371 Narrative Nonfiction (with approved content) (3)
   - FREN A432 Selected Topics: Studies in French/ Francophone Literature and Culture (with approved topic) (3)
   - GEOG A390B Topics in Regional Geography (with approved topic) (3)
   - HIST A320 The Rise, Fall, and Reinvention of the Samurai (3)
   - HIST A321 Modern China (3)
   - HIST A322 Modern Japan (3)
   - HIST A323 Communist China (3)
   - HIST/INTL/PS A325 Northeast Asia in 21st Century (3)
   - HIST A330 Russia in East Asia (3)
   - HIST A423 Medieval Russian History (3)
   - HIST A424 Imperial Russian History (3)
   - HIST A425 History of the Soviet Union (3)
   - HIST/RUSS A427 Post-Soviet Culture and Society (3)
   - HIST A477 Senior Seminar (3)
4. A total of 20 credits is required for the minor.

**Minor, Canadian Studies**

Students wishing to minor in Canadian Studies must complete the following requirements:

1. Complete the following course:
   - **INTL A315** Canada: Nation and Identity 3

2. Complete 8 credits of French language studies. 8

3. Complete three courses from the following (9):
   - **ANTH A416** Arctic Archeology (3)
   - **ANTH A435** Northwest Coast Cultures (3)
   - **ANTH A437** Eskimo Adaptations (3)
   - **ENGL A305** National Literatures in English (with approved topic) (3)
   - **ENGL A371** Narrative Nonfiction (with approved content) (3)
   - **FREN A432** Selected Topics: Studies in French/Francophone Literature and Culture (with approved topic) (3)
   - **GEOG A390B** Topics in Regional Geography (with approved topic) (3)
   - **THR A492** Senior Seminar (with approved topic) (3)
   
   Any course with the appropriate focus and approved by academic petition for the category. For example, a topics course that focuses on Canada. (3)

4. A total of 20 credits is required for the minor.

**FACULTY**

Michihiro Ama, Assistant Professor, mama@uaa.alaska.edu
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Susan Kalina, Professor, smkalina@uaa.alaska.edu
Gunnar Knapp, Professor, Gunnar.Knapp@uaa.alaska.edu
Sean Licka, Professor, celicka@uaa.alaska.edu
The International Studies program at UAA prepares students to be global citizens in an interdependent world. International and intercultural understanding and competency are essential in all aspects of life and work, and this program seeks to prepare students to be contributing members of the international community.

The interdisciplinary Bachelor of Arts in International Studies provides students with the analytical skills and cross-cultural sensitivities required of informed, global citizens. Core courses introduce students to different modes of enquiry and understanding and provide the foundation for a comparative approach to issues across regions, societies, and cultures. The program includes a regional track that focuses the student on a particular language and region or an applied global studies track that prepares students to pursue professional opportunities in international development, education, and health. Two program capstone courses require students to apply acquired analytical skills and modes of enquiry across regions, societies, and cultures in a comparative examination of various topics.

To further develop their global competence, students majoring in International Studies must participate in study abroad experience or another international/intercultural experience.

Students who complete a bachelor’s of International Studies will gain an understanding of the challenges and complexities of cross-cultural interactions in an increasingly interconnected world.

**Bachelor of Arts, International Studies**

**Program Student Learning Outcomes**

The specific education outcomes that support program objectives are to produce graduates who will be able to:

- Demonstrate cross-cultural understanding through language study.
- Demonstrate critical thinking about values, attitudes, and practices in an international context.
- Demonstrate an ability to analyze international issues and challenges and apply integrative multi-disciplinary tools to describe and explain them.
- Demonstrate effective written communication.

**Honors in International Studies**

Students majoring in International Studies are eligible to graduate with honors if they satisfy the following requirements:

1. Meet the requirements for Graduation with Honors as listed in Chapter 7,
2. Meet the requirements for a Bachelor of Arts in International Studies.

3. Maintain a grade point average of 3.80 or above in courses applicable to the degree requirements.

4. Complete both program "capstone" coursesone course each from Major Requirements 2 and 3 (ENGL A343, HIST A280A, or PHIL A400 and ANTH A465, GEOG A390A, or SOC A380) with grade of A.

### Bachelor of Arts, International Studies

#### Admission Requirements

Complete the Application and Admission to Baccalaureate Programs requirements in Chapter 7.

#### Graduation Requirements

Students must complete the following graduation requirements:

**A. General University Requirements**

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

**B. General Education Requirements**

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

**C. College of Arts and Sciences Requirements**

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

**D. Major Requirements**

Note 1: Courses which may be used to meet GER and/or CAS BA requirements are designated by an asterisk (*) after their numbers. Courses in the GER lists for Tier 2 social sciences and humanities requirements may be used to fulfill both International Studies requirements and GER Tier 2 requirements in social sciences and humanities.

Note 2: Topic, selected topics, studies in, and senior seminar courses, i.e., courses with changing topic and content and approved for a particular semester are posted on the International Studies Website under “Courses and Registration.”

<table>
<thead>
<tr>
<th>Introductory Survey</th>
<th>Social Sciences Selection</th>
<th>Humanities and Fine Arts Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG/ INTL A101*</td>
<td>EDFN A304</td>
<td>ART A262</td>
</tr>
<tr>
<td></td>
<td>HS A230</td>
<td>ENGL A202</td>
</tr>
<tr>
<td></td>
<td>JUST A365</td>
<td>ENGL A440</td>
</tr>
<tr>
<td></td>
<td>PS A102</td>
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<tr>
<td></td>
<td>PS A301</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Complete 21 credits of required core courses.

Complete the following core courses (15 credits):

- **Introductory Survey**
  - GEOG/ INTL A101*: Local Places/Global Regions: An Introduction to Geography (3)

- **Social Sciences Selection**
  - EDFN A304: Comparative Education (3)
  - HS A230: Introduction to Global Health (3)
  - JUST A365: Comparative Justice Systems (3)
  - PS A102: Introduction to Political Science (3)
  - PS A301: Comparative Political Economy (3)

- **Humanities and Fine Arts Selection**
  - ART A262: History of Western Art II (3)
  - ENGL A202: Masterpieces of World Literature II (3)
  - ENGL A440: Topics in Comparative Literature (3)
1. Complete one of the following courses in the professional elective: 3
   JPC A404 Global Media and Communications Systems (3)
   PHIL A212 History of Philosophy II (3)
   PHIL A313 Eastern Philosophy and Religion (3)
   PHIL A314 Western Religions (3)
   THR A312 Representative Plays II (3)

2. Complete one of the following courses in the humanities: 3
   ENGL A343 Modern and Contemporary Literature (3)
   HIST A390A Themes in World History (3)
   PHIL A400 Ethics, Community, and Society (3)
   ENGL A343 Modern and Contemporary Literature (2)

3. Complete one of the following courses in the social sciences: 3
   ANTH A465 Culture and Globalization (3)
   GEOG A390A Topics in Global Geography (3)
   SOC A380 Sociology of Globalization (3)

4. Choose an emphasis language from among the foreign languages offered at UAA and complete at least two semesters of 200-level language studies or above. Students in the Regional Studies Track must choose a language appropriate to one of the approved regions of study, which are specified below. 8

5. Complete 12 credits as specified in one of the tracks below or one of the following tracks:

   Regional Studies Track (12 credits)
   Complete 12 credits from at least two subjects of approved upper division electives in two different subject areas related to one of the approved regions of study – Europe, Russia, North East Asia, Russia or Comparative Regions.

   Europe (Languages: French, German, Russian, Spanish)
   ART A362 History of Modern Art (3)
   ART A363 History of Contemporary Art (3)
   ECON/HIST A360 Modern Economic History (3)
   ENGL A305 National Literatures in English (3) (with approved topic) (3)
   ENGL A343 Modern and Contemporary Literature (3) (if not taken as a capstone course for Major Requirement 3) (3)
   ENGL A440 Topics in Comparative Literature (with approved topic) (3)
   FREN A310 Selected Topics: Literary Trends and Traditions (with approved topic) (3)
   FREN A432 Selected Topics: Studies in French/ Francophone Literature and Culture (with approved topic) (3)
   GER A310 Selected Topics: Literary Trends and Traditions (with approved topic) (3)
   GER A332 Selected Topics: Literature and Culture of the German-Speaking Countries (with approved topic) (3)
   HIST A314 Nineteenth Century Europe (3)
   HIST A316 Twentieth Century Europe (3)
   HIST A411 History of Modern Germany (3)
   HIST A477 Senior Seminar (3) (with approved topic)
   HIST A486 Studies in Modern Europe (3)
   PHIL A314 Western Religions (3)
   PS A311 Comparative Politics (3)
   PS A333 History of Political Philosophy II: Modern (3)
   SPAN A320 Studies in Contemporary Hispanic Cultures (with approved topic) (3)
SPAN A432 Studies in Literature and Culture Selected Topics: Studies in Hispanic Literature and Culture (with approved topic) (3)
SPAN A490 Selected Topics in Hispanic Culture and Civilization (with approved topic) (3)
THR A412 History of Theatre II (3)
THR A492 Senior Seminar (with approved topic) (3)

Northeast Asia
(Languages: Japanese or Chinese)
ANTH A434 Peoples and Cultures of Northeast Asia (3)
ART A366 Asian Art (3)
HIST A320 The Rise, Fall, and Reinvention of the Samurai (3)
HIST A321 Modern China (3)
HIST A322 Modern Japan (3)
HIST A323 Communist China (3)
HIST/INTL/PS A325 Northeast Asia in 21st Century (3)
HIST A330 Russia in East Asia (3)
HIST A477 Senior Seminar (with approved content) (3)
INTL/HIST/PS A325 Northeast Asia in 21st Century (3)
JPN A310 Selected Topics in Advanced Japanese (with approved topic) (3)
JPN A490 Studies in Japanese Literature and Culture (3)
PHIL A313 Eastern Philosophy and Religion (3)
PS A492 Senior Seminar in Politics (with approved topic) (3)
THR A492 Senior Seminar (with approved topic) (3)

Russia
(Language: Russian)
ANTH A434 Peoples and Cultures of Northeast Asia (3)
ART A492 Art History Seminar (with approved topic) (3)
HIST A330 Russia in East Asia (3)
HIST A423 Medieval Russian History (3)
HIST A424 Imperial Russian History (3)
HIST A425 History of the Soviet Union (3)
HIST/RUSS A427 Post-Soviet Culture and Society (3)
HIST A477 Senior Seminar (3)

Comparative Regions
Languages: French or Spanish
ANTH A336 Peoples and Cultures of South America (3)
ART A492 Art History Seminar (with approved topic) (3)
FREN A310 Selected Topics: Literary Trends and Traditions (with approved topic) (3)

Comment [GMN4]: Delete -- course does not exist
Comment [GMN5]: Delete -- course does not exist
Formatted: Font: Bold
FREN A432  Selected Topics: Studies in French/Francophone Literature and Culture (3) (with approved topic) (3)
GEOG A390B  Regional Topics in Geography (3) (with approved topic) (3)
HIST A336A  History of Latin America to 1800 (3)
HIST A338A  History of Modern Latin America (3)
HIST A479  Studies in Modern American History (with approved topic) (3)
INTL A315  Canada: Nation and Identity (3)
PS A311  Comparative Politics (3)
PS A322  United States Foreign Policy (3)
PS A490  Studies in Politics (with approved topic) (1-3)
SPAN A310  Selected Topics: Literary Trends and Traditions (with approved topic) (3)
SPAN A320  Studies in Contemporary Hispanic Cultures (with approved topic) (3)
SPAN A390A  Selected Topics: Studies in Translation and Interpretation (with approved topic) (3)
SPAN A432  Selected Topics: Studies in Hispanic Literature and Culture (3) (with approved topic) (3)

Applied Global Studies Track

Complete 12 credits from the following, choosing at least 6 credits of which must be from List A:

List A:
- ECON A337  Development Economics (3)
- ECON A363  International Economics (3)
- ENVI A490  Topics in Environment and Society (with approved topics in international environmental issues) (3)
- PS A321  International Relations (3)
- PS A323  International Organizations (3)
- PS A424  International Law (3)
- SOC A307  Demography (3)

List B:
- BA A487  International Management (3)
- EDFN A301  Foundations of Literacy and Language Development (3)
- EDFN A478  Issues in Alaska Native Education, K-12 (3)
- ENGL A450  Linguistics and English Language Teaching (3)
- GEOG A375  Environmental Applications of Geographic Information Systems (GIS) (3)
- HS A326  Introduction to Epidemiology (3)
- HS A345  Planning and Implementation of Health Education Programs (3)
- HS/HUMS A420  Introduction to Program Evaluation (3)
- PS/SOC A361  Social Science Research Methods (3)
- PSY/SOC A362  Social Science Statistics (3)

6. International/Intercultural Experience

All International Studies students are required to engage in an international or intercultural experience related to their program of study and the desired student learning outcomes of the program. Students are required to complete this requirement through a study abroad program, short-term study abroad, or an international internship or service-learning project. Students are required to submit a proposed plan to complete this requirement no later than the end of the junior
Minor, International North Pacific Studies

Students majoring in another subject and wishing to minor in International North Pacific Studies must complete the following requirements:

1. Complete the following courses:
   - INTL A315* Canada: Nation and Identity (3)
   - PS A325  Northeast Asia in 21st Century (3)
   - HIST A330  Russia in East Asia (3)
   - INTL A315  Canada: Nation and Identity (3)
   - HIST A330  Russia in East Asia (3)

2. Complete 8 credits in one of the following languages: Chinese, French, Japanese, or Russian.

3. Complete one elective course from the Regional Studies track courses for Northeast Asia or Russia, or one course from the Canadian Studies minor electives following:
   - ANTH A416  Arctic Archeology (3)
   - ANTH A434  Peoples and Cultures of Northeast Asia (3)
   - ANTH A435  Northwest Coast Cultures (3)
   - ANTH A437  Eskimo Adaptations (3)
   - ART A366  Asian Art (3)
   - ART A492  Art History Seminar (with approved topic) (3)
   - ENGL A305  National Literatures in English (with approved topic) (3)
   - ENGL A371  Narrative Nonfiction (with approved content) (3)
   - FREN A432  Selected Topics: Studies in French/Francophone Literature and Culture (with approved topic) (3)
   - GEOG A390B  Topics in Regional Geography (with approved topic) (3)
   - HIST A320  The Rise, Fall, and Reinvention of the Samurai (3)
   - HIST A321  Modern China (3)
   - HIST A322  Modern Japan (3)
   - HIST A323  Communist China (3)
   - HIST/INTL/PS A325  Northeast Asia in 21st Century (3)
   - HIST A330  Russia in East Asia (3)
   - HIST A423  Medieval Russian History (3)
   - HIST A424  Imperial Russian History (3)
   - HIST A425  History of the Soviet Union (3)
   - HIST/RUSS A427  Post-Soviet Culture and Society (3)
   - HIST A477  Senior Seminar (3)
4. A total of 20 credits are required for the minor.

Minor, Canadian Studies

Students majoring in another subject and wishing to minor in Canadian Studies must complete the following requirements:

1. Complete the following course:
   - INTL A315* Canada: Nation and Identity (3)

2. Complete 8 credits of French language studies.
   - ANTH A416 Arctic Archeology (3)
   - ANTH A435 Eskimo Adaptations - Northwest Coast Cultures (3)
   - ANTH A437 Athabaskan Eskimo Adaptations (3)
   - ENGL A305 National Literatures in English (with approved topic) (3)
   - ENGL A371 Narrative Nonfiction (with approved content) (3)
   - FREN A432 Selected Topics in French/Francophone Literature and Culture (with approved topic) (3)
   - GEOG A390B Topics in Regional Geography (with approved topic) (3)
   - THR A492 Senior Seminar (with approved topic) (3)

Any course with the appropriate focus and approved by academic petition for the category. For example, a topics course that focuses on Canada. (3)

4. A total of 20 credits are required for the minor.

FACULTY

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Hiroko Harada, Professor, hharada@uaa.alaska.edu
Lee Huskey, Professor, lhuskey@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>1b. Division</th>
<th>1c. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS CAS</td>
<td>ASSC Division of Social Science</td>
<td>PSY</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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<tbody>
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<tr>
<td>Introduction to Behavior Analysis</td>
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<tr>
<td>Intro to Behavior Analysis</td>
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**Abbreviated Title for Transcript (30 character):**

<table>
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<tr>
<th>7. Type of Course</th>
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<tbody>
<tr>
<td>Academic</td>
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</tbody>
</table>

| 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 Restrictions
  - □ Class
  - □ College
  - □ Major
- □ Other

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<tr>
<td>□ P/NP</td>
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<tr>
<td>□ NG</td>
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<th>11. Implementation Date</th>
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<tbody>
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<td>semester/year</td>
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<td>To: Fall/9999</td>
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</tr>
</thead>
<tbody>
<tr>
<td>□ Stacked with Cross-Listed Coordination Signature</td>
</tr>
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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](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.</td>
<td>December 1, 2013</td>
<td>Claudia Lampman</td>
</tr>
<tr>
<td>2.</td>
<td>December 2, 2013</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>December 2, 2013</td>
<td></td>
</tr>
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Initiator Name (typed): Veronica Howard  
Initiator Signed Initials: __________     Date: __________

<table>
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<tr>
<th>13b. Coordination Email</th>
<th>Date: December 2, 2013</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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<table>
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<tr>
<th>13c. Coordination with Library Liaison</th>
<th>Date: December 2, 2013</th>
</tr>
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<table>
<thead>
<tr>
<th>14. General Education Requirement</th>
</tr>
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<tbody>
<tr>
<td>Mark appropriate box:</td>
</tr>
<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>□ Social Sciences</td>
</tr>
<tr>
<td>□ Natural Sciences</td>
</tr>
<tr>
<td>□ Integrative Capstone</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>15. Course Description (suggested length 20 to 50 words)</th>
</tr>
</thead>
</table>

An introduction to the principles of behavior analysis used to understand and change behavior. Students will learn how behavioral scientists observe, measure, and change behavior to help people live healthy, productive lives.

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

<table>
<thead>
<tr>
<th>16c. Other Restriction(s)</th>
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<tbody>
<tr>
<td>□ College</td>
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<td>□ Major</td>
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<tr>
<td>□ Class</td>
</tr>
<tr>
<td>□ Level</td>
</tr>
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</table>

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

| 17. Mark if course has fees |

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

<table>
<thead>
<tr>
<th>19. Justification for Action</th>
</tr>
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</table>

Adding course. PSY A200 will serve as a prerequisite for PSY A400 (Strategies of Behavior Change), and will serve as a foundation for later coursework in the Behavior Analysis concentration that prepares students to apply for professional certification and/or to work in many social service agencies.

<table>
<thead>
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<th>Initiator (faculty only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veronica Howard</td>
</tr>
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</table>

<table>
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Dean/Director of School/College  
Date: __________

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Board Chair  
Date: __________

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<th>Disapproved</th>
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</table>

Date: __________
University of Alaska Anchorage
Course Content Guide

I. Initiation Date: January 22, 2014

II. Curriculum Action Request
1. College: College of Arts and Sciences
2. Course Title: Introduction to Behavior Analysis
3. Course Prefix: PSY A200
4. Credit Hours: 3 + 0
5. Contact Time: 3
6. Grading Information: A - F
7. Course Description: An introduction to the principles of behavior analysis used to understand and change behavior. Students will learn how behavioral scientists observe, measure, and change behavior to help people live healthy, productive lives.
8. Status of course relative to degree or certification program: Required for concentration in Behavior Analysis
9. Course Fees: None
10. Coordination: UAA faculty list-serve
11. Cross-listed/Stacked: N/A
12. Course Prerequisites: N/A
13. Course Co-requisites: N/A
14. Other Restrictions: N/A
15. Registration Restrictions: N/A

III. Course Activities
Lecture and classroom-based activities.

IV. Course Level Justification
The course requires no prerequisite knowledge of the field of psychology and can be relevant to a wide range of potential career paths.

V. Instructional Goals and Student Learning Outcomes
A. Instructional Goals.
   The instructor will:
   1. Describe the philosophical assumptions of behavior analysis.
   2. Describe and define the basic principles of behavior analysis, such as reinforcement, punishment, and stimulus control.
   3. Describe research methods and data analysis used in behavior analysis.
B. Student Learning Outcomes.

<table>
<thead>
<tr>
<th>Upon successful completion of the course, the student will be able to:</th>
<th>The student learning outcome will be assessed by one or more of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the philosophical assumptions of behavior analysis.</td>
<td>Graded in-class activities, quizzes, and/or tests.</td>
</tr>
<tr>
<td>Describe and define the basic principles of behavior analysis, such as reinforcement, punishment, and stimulus control.</td>
<td>Graded in-class activities, quizzes, and/or tests.</td>
</tr>
<tr>
<td>Describe research methods and data analysis used in behavior analysis.</td>
<td>Graded in-class activities, quizzes, and/or tests.</td>
</tr>
</tbody>
</table>

VI. Topic Course Outline


1. Overview of Behavior Analysis
   a. Philosophy
      i. Lawfulness of behavior
      ii. Determinism
      iii. Parsimony
      iv. Pragmatism
   b. Differences between respondent and operant conditioning
   c. Distinctions between types of behavior analysis
      i. Methodological versus radical behaviorism
      ii. Conceptual analysis of behavior
      iii. Experimental analysis of behavior
      iv. Applied behavior analysis
      v. Behavioral service delivery (e.g., Positive Behavioral Support)

2. Defining, observing, and evaluating behavior
   a. Environmental (as opposed to Mentalistic) explanations of behavior
   b. Methods of observation
      i. Outcome
      ii. Event
      iii. Interval
      iv. Time-sample
   c. Basic experimental designs in behavior analysis
      i. Comparison Design
      ii. Reversal Design
      iii. Multiple-baseline Design
   d. Visual analysis of behavioral data
      i. Level
      ii. Trend
      iii. Variability
   e. Reliability and social validity
3. Reinforcement
   a. Types of reinforcement (i.e., positive and negative reinforcement)
   b. Classes of reinforcing stimuli
      i. Primary
      ii. Conditioned
      iii. Generalized
   c. Principles of effective reinforcement
      i. Deprivation
      ii. Immediacy
      iii. Size
      iv. Contingency
   d. Extinction
   e. Differential reinforcement
   f. Shaping
   g. Basic schedules of reinforcement
      i. Interval-Based Schedules
      ii. Ratio-Based Schedules
      iii. Extinction
   h. Behavioral contrast, momentum, and matching

4. Punishment
   a. Types of Punishment
      i. Positive and negative punishment
      ii. The role of escape and avoidance
   b. Principles of effective punishment
   c. Classes of punishing stimuli
      i. Primary
      ii. Conditioned
      iii. Generalized
   d. Ethical Considerations when Using Punishment
      i. An intervention of last resort
      ii. Alternatives to the use of punishment

5. Stimulus Control
   a. Stimulus discrimination
   b. Generalization training
   c. Programming and fading
   d. Imitation
   e. Instructions and rule governed behavior
      i. Pliance
      ii. Tracking

VII. Suggested Texts


VIII. Bibliography and Resources


*Seminal article in the field.*
Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
   AS CAS

1b. Division
   ASSC Division of Social Science

1c. Department
   PSY

2. Course Prefix
   PSY

3. Course Number
   A400

4. Previous Course Prefix & Number
   A445

5a. Credits/CEUs
   3.0

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

6. Complete Course Title
   Strategies of Behavior Change

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
   - Other update 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: Fall/9999

12. Cross Listed with
    - Stacked with PSY A600

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. Courtesy</td>
<td>December 1, 2013</td>
<td>Claudia Lampman</td>
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<tr>
<td>3.</td>
<td></td>
<td></td>
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</tbody>
</table>

   Initiator Name (typed): Veronica Howard
   Initiator Signed Initials: ________
   Date: ____________________

13b. Coordination Email
    Date: December 2, 2013
    submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
    Date: December 2, 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)
    An exploration of the principles, strategies, and clinical applications of behavior analysis. Topics will include methods to improve desirable behavior and decrease problem behavior, methods to evaluate behavior change and program effectiveness, and development of comprehensive behavioral programs.

16a. Course Prerequisite(s) (list prefix and number or test code and score)
    (PSY A200 or PSY A355) with a grade of C or higher.

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

16c. Other 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
    We are changing the course number so the course can be stacked and adding prerequisites as part of the concentration in Behavior Analysis.

Initiator (faculty only)
Veronica Howard
Initiator (TYPE NAME)

Approved
Disapproved

Approved
Disapproved

Approved
Disapproved

Approved
Disapproved

Approved
Disapproved

Approved
Disapproved

Approved
Disapproved
I. Initiation Date: January 22, 2014

II. Curriculum Action Request
1. College: College of Arts and Sciences
2. Course Title: Strategies of Behavior Change
3. Course Prefix: PSY A400
4. Credit Hours: 3 + 0
5. Contact Time: 3
6. Grading Information: A - F
7. Course Description: An exploration of the principles, strategies, and clinical applications of behavior analysis. Topics will include methods to improve desirable behavior and decrease problem behavior, methods to evaluate behavior change and program effectiveness, and development of comprehensive behavioral programs.
8. Status of course relative to degree or certification program: Required for concentration in Behavior Analysis
9. Course Fees: None
10. Coordination: UAA faculty list-serve
11. Cross-listed/Stacked: Stacked with PSY A600
12. Course Prerequisites: (PSY A200 or PSY A355) with a grade of C or higher
13. Course Co-requisites: N/A
14. Other Restrictions: N/A
15. Registration Restrictions: N/A

III. Course Activities
Lecture and classroom-based activities.

IV. Course Level Justification
The course requires an understanding of the principles of behavior analysis gained in PSY A200 or PSY A355.

V. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:
   1. Review the philosophical assumptions of behavior analysis.
   2. Describe and define the strategies of behavior change, such as methods to identify the function of problem behavior, strategies to increase and teach new behavior, decrease problematic or dangerous behavior, and strategies to improve independent self-care for clients.
   3. Describe research methods and data analysis used in behavior analysis.
   4. Describe ethical conduct guidelines for behavior analysts.
B. Student Learning Outcomes.

<table>
<thead>
<tr>
<th>Upon successful completion of the course, the student will be able to:</th>
<th>The student learning outcome will be assessed by one or more of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correctly graph and analyze behavioral data.</td>
<td>Graded in-class activities, quizzes, and/or tests.</td>
</tr>
<tr>
<td>Define and describe advanced principles and basic strategies of behavior change (e.g., reinforcement, punishment, shaping, fading, programming, Premack principle).</td>
<td>Graded in-class activities, quizzes, and/or tests.</td>
</tr>
<tr>
<td>Describe and demonstrate advanced strategies of behavioral methodology and treatment (e.g., functional analyses, alternating treatment designs, errorless learning, token economies, behavioral contracts, incidental teaching, teaching functional communication)</td>
<td>Graded in-class activities, quizzes, and/or tests.</td>
</tr>
<tr>
<td>Discriminate between ethical and non-ethical conduct by behavior analytic service providers.</td>
<td>Graded in-class activities, case studies, quizzes, and/or tests.</td>
</tr>
</tbody>
</table>

VI. Topic Course Outline

Note: Course content is designed to primarily teach Basic Behavior Analytic Skills as described by the Behavior Analysis Certification Board (BACB)®. These skills are outlined in the BACB Fourth Edition Task List: [http://www.bacb.com/Downloadfiles/TaskList/BACB_Fourth_Edition_Task_List.pdf](http://www.bacb.com/Downloadfiles/TaskList/BACB_Fourth_Edition_Task_List.pdf)

1. Reviewing the behavioral strategy
   a. Introduction to behavior analysis
      i. Lawfulness of behavior
      ii. Selectionism (i.e., phylogenetic, ontogenetic, cultural)
      iii. Determinism
      iv. Empiricism
      v. Parsimony
      vi. Pragmatism
   b. Distinctions between respondent and operant conditioning
   c. Distinctions between types of behavior analysis
      i. Methodological versus radical behaviorism
      ii. Conceptual analysis of behavior
      iii. Experimental analysis of behavior
      iv. Applied behavior analysis
      v. Behavioral service delivery (e.g., positive behavior support)

2. Selecting, defining, and measuring behavior
   a. Social validity
   b. Mentalistic versus objective behavior
   c. Topographic versus functional behavior
   d. Methods of observation

3. Evaluating and analyzing behavior change
   a. Reliability
   b. Single-subject designs
c. Threats to internal and external validity

4. Reinforcement Strategies
   a. Reinforcement
   b. Differential reinforcement procedures (i.e., DRO, DRA, DRI, DRL, DRH)
   c. Premack Principle

5. Teaching New Behavior
   a. Schedules of reinforcement that promote learning
   b. Errorless learning
   c. Shaping

6. Introduction to Functional Analysis Methodology

7. Punishment
   a. Punishment by aversive stimulation
   b. Response cost
   c. Time out versus time in
   d. Ethical considerations of punishment

8. Decreasing behavior using non-aversive strategies
   a. Differential reinforcement
   b. Behavioral contrast, momentum, and induction
   c. Matching law

9. Antecedent strategies
   a. Chaining
   b. Programming
   c. Fading

10. Introduction to Skinner’s Verbal Behavior
    a. Skinner/Chomsky debate
    b. Echoics
    c. Mands
    d. Tacts
    e. Intraverbals

11. Special applications of behavior analysis
    a. Contingency contracts
    b. Token economies
    c. Group contingencies
    d. Self-management
    e. Positive behavior support

12. Promoting generalization and maintenance of behavior change
    a. Schedules of reinforcement that maintain responding
    b. Programming for maintenance and generalization of behavior
c. Programming for the survival of a behavior analytic programming

13. Ethical considerations for behavior analysts
   a. Responsible conduct of a behavior analyst
   b. The behavior analyst's responsibility to clients
   c. Responsible conduct when assessing behavior
   d. The behavior analyst and the individual behavior change program

VII. Suggested Texts


VIII. Bibliography and Resources


Articles published in *Journal of Applied Behavior Analysis*.

*Seminal works in the field.*
### Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
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<td>PSY</td>
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<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
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<th>5b. Contact Hours (Lecture + Lab)</th>
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<td>A600</td>
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6. Complete Course Title
Introduction to Strategies of Behavior Change
Strategies of Behavior Change
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
- [ ] College
- [ ] Major
- [ ] Other

9. Repeat Status No

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

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

12. Cross Listed with
- Stacked with PSY A400

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](http://www.uaa.alaska.edu/governance).

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Initiator Name (typed): Veronica Howard
Initiator Signed Initials: _________

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: December 2, 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)
An introduction to the principles, strategies, and clinical applications of behavior analysis. Topics will include methods to improve desirable behavior and decrease problem behavior, methods to evaluate behavior change and program effectiveness, and development of comprehensive behavioral programs.

Special note: PSY A600 cannot be taken for credit if PSY A400 was previously taken for credit.

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)

16d. 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
We are adding this course as an elective for graduate students who are pursing degrees in helping related professions (e.g., psychology, social work, human services).
<table>
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<th>Dean/Director of School/College</th>
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<th>Undergraduate/Graduate Academic</th>
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<table>
<thead>
<tr>
<th>College/School Curriculum Committee Chair</th>
<th>Date</th>
<th>Provost or Designee</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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<td>Disapproved</td>
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</tbody>
</table>

116
I. Initiation Date: January 22, 2014

II. Curriculum Action Request
1. College: College of Arts and Sciences
2. Course Title: Introduction to Strategies of Behavior Change
3. Course Prefix: PSY A600
4. Credit Hours: 3 + 0
5. Contact Time: 3
6. Grading Information: A - F
7. Course Description: An introduction to the principles, strategies, and clinical applications of behavior analysis. Topics will include methods to improve desirable behavior and decrease problem behavior, methods to evaluate behavior change and program effectiveness, and development of comprehensive behavioral programs.

Special note: PSY A600 cannot be taken for credit if PSY A400 was previously taken for credit.

8. Status of course relative to degree or certification program: Elective
9. Course Fees: None
10. Coordination: UAA faculty list-serve
11. Cross-listed/Stacked: Stacked with PSY A400
12. Course Prerequisites: N/A
13. Course Co-requisites: N/A
14. Other Restrictions: N/A
15. Registration Restrictions: Graduate standing

III. Course Activities
Lecture and classroom-based activities, including substantive contribution to class discussion and coordination of a class topic discussion activity.

IV. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:
1. Review the philosophical assumptions of behavior analysis.
2. Describe and define the strategies of behavior change, such as methods to identify the function of problem behavior, strategies to increase and teach new behavior, decrease problematic or dangerous behavior, and strategies to improve independent self-care for clients.
3. Describe research methods and data analysis used in behavior analysis.
4. Describe ethical conduct guidelines for behavior analysts.
B. Student Learning Outcomes.

<table>
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<th>Upon successful completion of the course, the student will be able to:</th>
<th>The student learning outcome will be assessed by one or more of the following:</th>
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<td>Correctly graph and analyze behavioral data.</td>
<td>Graded in-class activities, quizzes, and/or tests.</td>
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<tr>
<td>Define and describe advanced principles and basic strategies of behavior change (e.g., reinforcement, punishment, shaping, fading, programming, Premack principle).</td>
<td>Graded in-class activities, quizzes, and/or tests.</td>
</tr>
<tr>
<td>Describe and demonstrate advanced strategies of behavioral methodology and treatment (e.g., functional analyses, alternating treatment designs, errorless learning, token economies, behavioral contracts, incidental teaching, teaching functional communication)</td>
<td>Graded in-class activities, quizzes, and/or tests as well as developing discussion topics based on primary sources and leading a lecture on a class topic.</td>
</tr>
<tr>
<td>Discriminate between ethical and non-ethical conduct by behavior analytic service providers.</td>
<td>Graded in-class activities, case studies, quizzes, and/or tests.</td>
</tr>
<tr>
<td>Critically analyze primary source material.</td>
<td>Term paper, class presentations, and/or leading a lecture on a class topic.</td>
</tr>
</tbody>
</table>

V. Topic Course Outline

Note: Course content is designed to primarily teach Basic Behavior Analytic Skills as described by the Behavior Analysis Certification Board (BACB) ®. These skills are outlined in the BACB Fourth Edition Task List: [http://www.bacb.com/Downloadfiles/TaskList/BACB_Fourth_Edition_Task_List.pdf](http://www.bacb.com/Downloadfiles/TaskList/BACB_Fourth_Edition_Task_List.pdf)

1. Reviewing the behavioral strategy
   a. Introduction to behavior analysis
      i. Lawfulness of behavior
      ii. Selectionism (i.e., phylogenetic, ontogenetic, cultural)
      iii. Determinism
      iv. Empiricism
      v. Parsimony
      vi. Pragmatism
   b. Distinctions between respondent and operant conditioning
   c. Distinctions between types of behavior analysis
      i. Methodological versus radical behaviorism
      ii. Conceptual analysis of behavior
      iii. Experimental analysis of behavior
      iv. Applied behavior analysis
      v. Behavioral service delivery (e.g., positive behavior support)

2. Selecting, defining, and measuring behavior
   a. Social validity
   b. Mentalistic versus objective behavior
   c. Topographic versus functional behavior
   d. Methods of observation
3. Evaluating and analyzing behavior change
   a. Reliability
   b. Single-subject designs
   c. Threats to internal and external validity

4. Reinforcement Strategies
   a. Reinforcement
   b. Differential reinforcement procedures (i.e., DRO, DRA, DRI, DRL, DRH)
   c. Premack Principle

5. Teaching New Behavior
   a. Schedules of reinforcement that promote learning
   b. Errorless learning
   c. Shaping

6. Introduction to Functional Analysis Methodology

7. Punishment
   a. Punishment by aversive stimulation
   b. Response cost
   c. Time out versus time in
   d. Ethical considerations of punishment

8. Decreasing behavior using non-aversive strategies
   a. Differential reinforcement
   b. Behavioral contrast, momentum, and induction
   c. Matching law

9. Antecedent strategies
   a. Chaining
   b. Programming
   c. Fading

10. Introduction to Skinner’s Verbal Behavior
    a. Skinner/Chomsky debate
    b. Echoics
    c. Mands
    d. Tacts
    e. Intraverbals

11. Special applications of behavior analysis
    a. Contingency contracts
    b. Token economies
    c. Group contingencies
    d. Self-management
    e. Positive behavior support

12. Promoting generalization and maintenance of behavior change
a. Schedules of reinforcement that maintain responding
b. Programming for maintenance and generalization of behavior
c. Programming for the survival of a behavior analytic programming

13. Ethical considerations for behavior analysts
   a. Responsible conduct of a behavior analyst
   b. The behavior analyst's responsibility to clients
   c. Responsible conduct when assessing behavior
d. The behavior analyst and the individual behavior change program

VI. Suggested Texts


VII. Bibliography and Resources


Articles published in Journal of Applied Behavior Analysis.

*Seminal works in the field.
**Course Action Request**

**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>AS CAS</td>
<td>ASSC Division of Social Science</td>
<td>PSY</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</th>
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<td>(Lecture + Lab)</td>
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<tr>
<th>6. Complete Course Title</th>
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<tbody>
<tr>
<td>Interventions for Challenging Behavior</td>
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<table>
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<tr>
<th>7. Type of Course</th>
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<td>Academic</td>
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| 8. Type of Action: | Add | Change | Delete |

If a change, mark appropriate boxes:

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

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<td>To: Fall/9999</td>
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<tr>
<th>12. Cross Listed with</th>
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<tbody>
<tr>
<td>Stacked with PSY A655</td>
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Cross-Listed Coordination

<table>
<thead>
<tr>
<th>13a. Impacted Courses or Programs:</th>
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<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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Imected Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Courtesy</td>
<td>December 1, 2013</td>
<td>Claudia Lampman</td>
</tr>
<tr>
<td>2.</td>
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<tr>
<td>3.</td>
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Initiator Name (typed): Veronica Howard    Initiator Signed Initials: __________    Date: __________

<table>
<thead>
<tr>
<th>13b. Coordination Email</th>
<th>Date: December 2, 2013</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>
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<table>
<thead>
<tr>
<th>13c. Coordination with Library Liaison</th>
<th>Date: December 2, 2013</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)

An exploration of strategies used to treat challenging and dangerous behavior such as delinquency, eating disorders, aggression, self-injury, and substance use. Course will present an overview of neurodevelopmental, neurocognitive and other disorders that commonly produce challenging behavior and the role of family and community supports in community-based behavioral treatment.

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

PSY A400 with a grade of B or higher.

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

N/A

16c. Other 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

Course content is being revised to emphasize evidence-based behavioral treatment to be used as an upper division selective in the Behavior Analysis concentration.

Initiator (faculty only): Veronica Howard    Date: __________

Initiator (TYPE NAME): __________  __________

[Approval or Disapproval Options]

Approved: Dean/Director of School/College  Date: __________

Disapproved: Undergraduate/Graduate Academic  Date: __________

Approved: Board Chair  Date: __________

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

I. Initiation Date: January 22, 2014

II. Curriculum Action Request
1. College: College of Arts and Sciences
2. Course Title: Interventions for Challenging Behavior
3. Course Prefix: PSY A455
4. Credit Hours: 3 + 0
5. Contact Time: 3
6. Grading Information: A - F
7. Course Description: An exploration of strategies used to treat challenging and dangerous behavior such as delinquency, eating disorders, aggression, self-injury, and substance use. Course will present an overview of neurodevelopmental, neurocognitive and other disorders that commonly produce challenging behavior and the role of family and community supports in community-based behavioral treatment.
8. Status of course relative to degree or certification program: Selective for concentration in Behavior Analysis
9. Course Fees: None
10. Coordination: UAA faculty list-serve
11. Cross-listed/Stacked: Stacked with PSY A655
12. Course Prerequisites: PSY A400 with a grade of B or higher
13. Course Co-requisites: N/A
14. Other Restrictions: N/A
15. Registration Restrictions: N/A

III. Course Activities
Lecture and classroom-based activities.

IV. Course Level Justification
The course requires an understanding and ability to apply principles of behavior analysis learned in PSY A400.

V. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:
1. Describe the impact of biological, psychological and environmental factors that may set the occasion for challenging behavior, and describe effective behavioral interventions for managing these behaviors.
2. Describe neurodevelopmental, neurocognitive, and other disorders that produce challenging behavior including etiology and associated behavior patterns.
3. Provide learning experiences that illustrate how to effectively work with the families and other caregivers of individuals with neurodevelopmental and non-developmental disorders to improve client outcomes.
B. Student Learning Outcomes.

<table>
<thead>
<tr>
<th>Upon successful completion of the course, the student will be able to:</th>
<th>The student learning outcome will be assessed by one or more of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the biopsychosocial factors that contribute to challenging behavior.</td>
<td>Graded in-class activities, quizzes, and/or exams</td>
</tr>
<tr>
<td>Describes and designs behavioral interventions to manage problem behavior associated with disorders.</td>
<td>Graded in-class activities, written papers, quizzes, and/or exams</td>
</tr>
<tr>
<td>Specifies disorders that produce challenging behavior including etiology and associated behavior patterns.</td>
<td>Graded in-class activities, written papers, class presentations, quizzes, and/or exams</td>
</tr>
<tr>
<td>Describe how to effectively work with families and teams to improve client outcomes.</td>
<td>Graded in-class activities, written paper, and/or exams</td>
</tr>
</tbody>
</table>

VI. Topic Course Outline

1. History of treatment for disorders producing challenging behavior
   a. Medical model versus community based treatment
   b. Legislation and policy regarding treatment
   c. Ethical issues

2. Etiology and characteristics of disorders commonly presenting challenging behavior
   a. Neurodevelopmental disorders (e.g., autism spectrum disorder, attention-deficit hyperactivity disorder, fetal alcohol spectrum disorder)
   b. Neurocognitive disorders (e.g., dementia, Alzheimer’s Disease)
   c. Non-developmental disorders (e.g., phobia, substance use disorder, traumatic brain injury)

3. Assessment procedures
   a. Indirect assessment (e.g., screening tools, client/caregiver interview)
   b. Descriptive analysis
   c. Functional Assessment
   d. Functional Analysis

4. Treatment of challenging behavior
   a. Delinquency
   b. Eating disorders (e.g., pica, ruminative vomiting, obesity, and food refusal)
   c. Substance use
   d. Self-injury
   e. Aggression

5. Evidence-based behavior management approaches
   a. Choosing appropriate treatment
      i. Review best available scientific evidence for interventions
      ii. Critically evaluate the evidence regarding effectiveness, efficacy, and side effects of interventions
iii. Educate clients about risks and benefits of alternative interventions and combinations of interventions (including potential interference with behavior analytic intervention)

iv. Educate other professionals and organizations (e.g., school districts, government, insurance companies) about risks and benefits of alternative interventions and combinations of interventions

b. Behavior analytic treatment
   i. Behavior analytic versus non-behavior analytic interventions
   ii. Strategies to promote acceptable and preferred behavior (e.g., differential reinforcement, shaping, prompts and programming, token economies)
   iii. Strategies to decrease dangerous or disruptive behavior (e.g., extinction, punishment, behavioral contracts)

6. Systems and support
   a. Person centered planning
   b. Working with families (the family-centered approach)
   c. Working within treatment teams
   d. Designing effective treatment
      i. Setting considerations
      ii. Goodness of fit

7. Ethical Behavior
   a. Appropriate conduct of the treatment professional
   b. Operating within the scope of competence

VII. Suggested Texts


VIII. Bibliography and Resources


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*Seminal article in the field.
Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
   AS CAS

1b. Division
   ASSC Division of Social Science

1c. Department
   PSY

2. Course Prefix
   PSY

3. Course Number
   A655

4. Previous Course Prefix & Number
   N/A

5a. Credits/CEUs
   3.0

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

6. Complete Course Title
   Introduction to Interventions for Challenging Behavior
   Intro to Challenging Behavior

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
   ☐ Test Score Prerequisites
   ☐ Course Prerequisites
   ☐ Co-requisites
   ☐ 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
    From: Fall/2014
    To: Fall/2099

12. ☐ Cross Listed with
    ☒ Stacked with PSY A455
    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.

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Initiator Name (typed): Veronica Howard   Initiator Signed Initials: __________   Date: __________

13b. Coordination Email
    Date: December 2, 2013
    submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
    Date: December 2, 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)
   An introduction to the strategies used to treat challenging and dangerous behavior such as delinquency, eating disorders, aggression, self-injury, and substance use. Course will present an overview of neurodevelopmental, neurocognitive and other disorders that commonly produce challenging behavior and the role of family and community supports in community-based behavioral treatment.

Special note: PSY A655 cannot be taken for credit if PSY A455 was previously taken for credit.

16a. Course Prerequisite(s) (list prefix and number or test code and score)
    PSY A600

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

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

16d. 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
    We are adding this course as an elective for graduate students who are pursing degrees in helping related professions (e.g., psychology, social work, human services).
<table>
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<tr>
<th>Initiator (faculty only)</th>
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<th>Disapproved</th>
<th>Dean/Director of School/College</th>
<th>Date</th>
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<td>Veronica Howard</td>
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<td>College/School Curriculum Committee Chair</td>
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Initiation Date: January 22, 2014  

II. Curriculum Action Request  
1. College: College of Arts and Sciences  
2. Course Title: Introduction to Interventions for Challenging Behavior  
3. Course Prefix: PSY A655  
4. Credit Hours: 3 + 0  
5. Contact Time: 3  
6. Grading Information: A - F  
7. Course Description: An introduction to the strategies used to treat challenging and dangerous behavior such as delinquency, eating disorders, aggression, self-injury, and substance use. Course will present an overview of neurodevelopmental, neurocognitive and other disorders that commonly produce challenging behavior and the role of family and community supports in community-based behavioral treatment.  

Special note: PSY A655 cannot be taken for credit if PSY A455 was previously taken for credit.  

8. Status of course relative to degree or certification program: Elective  
9. Course Fees: None  
10. Coordination: UAA faculty list-serve  
11. Cross-listed/Stacked: Stacked with PSY A455  
12. Course Prerequisites: PSY A600  
13. Course Co-requisites: N/A  
14. Other Restrictions: N/A  
15. Registration Restrictions: Graduate standing  

III. Course Activities  
Lecture and classroom-based activities, including substantive contribution to class discussion and coordination of a class topic discussion activity.  

IV. Instructional Goals and Student Learning Outcomes  
A. Instructional Goals. The instructor will:  
1. Describe the impact of biological, psychological and environmental factors that may set the occasion for challenging behavior, and describe effective behavioral interventions for managing these behaviors.  
2. Describe neurodevelopmental, neurocognitive, and other disorders that produce challenging behavior including etiology and associated behavior patterns.  
3. Provide learning experiences that illustrate how to effectively work with the families and other caregivers of individuals with neurodevelopmental and non-developmental disorders to improve client outcomes.
### B. Student Learning Outcomes.

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<td>Describe the biopsychosocial factors that contribute to challenging behavior.</td>
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</tr>
<tr>
<td>Describe and design behavioral interventions to manage problem behavior associated with disorders.</td>
<td>Graded in-class activities, quizzes, and/or tests as well as developing discussion topics based on primary sources and leading a lecture on a class topic.</td>
</tr>
<tr>
<td>Specify disorders that produce challenging behavior including etiology and associated behavior patterns.</td>
<td>Graded in-class activities, written papers, class presentations, quizzes, and/or exams</td>
</tr>
<tr>
<td>Describe how to effectively work with families and teams to improve client outcomes.</td>
<td>Graded in-class activities, written paper, and/or exams</td>
</tr>
<tr>
<td>Critically analyze primary source material.</td>
<td>Term paper, class presentations, and/or leading a lecture on a class topic.</td>
</tr>
</tbody>
</table>

### V. Topic Course Outline

1. History of treatment for disorders producing challenging behavior
   a. Medical model versus community based treatment
   b. Legislation and policy regarding treatment
   c. Ethical issues

2. Etiology and characteristics of disorders commonly presenting challenging behavior
   a. Neurodevelopmental disorders (e.g., autism spectrum disorder, attention-deficit hyperactivity disorder, fetal alcohol spectrum disorder)
   b. Neurocognitive disorders (e.g., dementia, Alzheimer’s Disease)
   c. Non-developmental disorders (e.g., phobia, substance use disorder, traumatic brain injury)

3. Assessment procedures
   a. Indirect assessment (e.g., screening tools, client/caregiver interview)
   b. Descriptive analysis
   c. Functional Assessment
   d. Functional Analysis

4. Treatment of challenging behavior
   a. Delinquency
   b. Eating disorders (e.g., pica, ruminative vomiting, obesity, and food refusal)
   c. Substance use
   d. Self-injury
   e. Aggression

5. Evidence-based behavior management approaches
   a. Choosing appropriate treatment
i. Review best available scientific evidence for interventions
ii. Critically evaluate the evidence regarding effectiveness, efficacy, and side effects of interventions
iii. Educate clients about risks and benefits of alternative interventions and combinations of interventions (including potential interference with behavior analytic intervention)
iv. Educate other professionals and organizations (e.g., school districts, government, insurance companies) about risks and benefits of alternative interventions and combinations of interventions

b. Behavior analytic treatment
i. Behavior analytic versus non-behavior analytic interventions
ii. Strategies to promote acceptable and preferred behavior (e.g., differential reinforcement, shaping, prompts and programming, token economies)
iii. Strategies to decrease dangerous or disruptive behavior (e.g., extinction, punishment, behavioral contracts)

6. Systems and support
   a. Person centered planning
   b. Working with families (the family-centered approach)
   c. Working within treatment teamsTraining caregivers and other professionals
   d. Designing effective treatment
      i. Setting considerations
      ii. Goodness of fit

7. Ethical Behavior
   a. Appropriate conduct of the treatment professional
   b. Operating within the scope of competence

VI. Suggested Texts


VII. Bibliography and Resources


*Seminal article in the field.*
Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
   AS CAS

1b. Division
   ASSC Division of Social Science

1c. Department
   PSY

2. Course Prefix
   PSY

3. Course Number
   A447

4. Previous Course Prefix & Number
   N/A

5a. Credits/CEUs
   3.0

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

6. Complete Course Title
   Behavioral Treatment of Autism Spectrum Disorder
   Behavioral Treatment of ASD
   (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
   ☐ Registration Restrictions
   ☐ Class
   ☐ Level
   ☐ College
   ☐ Major
   (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: Fall/9999

12. Cross Listed with
   ☐ Stack with
   ☐ PSY A647
   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.

   Impact Program/Case
   Date of Coordination
   Chair/Coordinator Contacted

1. Courtesy
   December 1, 2013
   Claudia Lampman

2. MEd in Special Education / EDSE A633 Autism: Communication and Social Disorders
   December 2, 2013
   Jeff Bailey

3. 

   Initiator Name (typed): Veronica Howard
   Initiator Signed Initials:
   Date: 

13b. Coordination Email
    Date: December 2, 2013
    submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
    Date: December 2, 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)
    An advanced exploration of Autism Spectrum Disorder, including etiology, impact of the disorder on behavior, treatment options, and the role of family and community supports. Course will emphasize community-based behavioral treatment and early intensive behavioral intervention.

16a. Course Prerequisite(s) (list prefix and number or test code and score)
    PSY A400 with a grade of B or higher.

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

16c. Other 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
    Adding course to address needed workforce development of Autism Spectrum Disorder treatment professionals in Alaska. PSY A474 will be an upper division elective for the Psychology BA and BS degrees, and will be a selective for the Behavior Analysis concentration that prepares students to apply for professional certification and/or to work in many social service agencies.
<table>
<thead>
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<td>Veronica Howard</td>
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- [ ] Disapproved

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<th>Date</th>
<th>Undergraduate/Graduate Academic Board Chair</th>
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- [ ] Approved
- [ ] Disapproved

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<tr>
<th>College/School Curriculum Committee Chair</th>
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- [ ] Approved
- [ ] Disapproved
I. Initiation Date: January 22, 2014

II. Curriculum Action Request
1. College: College of Arts and Sciences
2. Course Title: Behavioral Treatment of Autism Spectrum Disorder
3. Course Prefix: PSY A447
4. Credit Hours: 3 + 0
5. Contact Time: 3
6. Grading Information: A - F
7. Course Description: An advanced exploration of Autism Spectrum Disorder, including etiology, impact of the disorder on behavior, treatment options, and the role of family and community supports. Course will emphasize community-based behavioral treatment and early intensive behavioral intervention.
8. Status of course relative to degree or certification program: Selective for concentration in Behavior Analysis
9. Course Fees: None
10. Coordination: UAA faculty list-serve
11. Cross-listed/Stacked: Stacked with PSY A647
12. Course Prerequisites: PSY A400 with a grade of B or higher
13. Course Co-requisites: N/A
14. Other Restrictions: N/A
15. Registration Restrictions: N/A

III. Course Activities
Lecture and classroom-based activities

IV. Course Level Justification
The course requires an understanding and ability to apply the principles of behavior analysis learned in PSY A400.

V. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:
1. Describe the etiology and diagnosis of Autism Spectrum Disorder.
2. Describe the impact of Autism Spectrum Disorder on behavior, including communication, social behavior, cognitive/academic performance, and motor skills.
4. Describe how to effectively work with the families and caregivers of individuals diagnosed with Autism Spectrum Disorder to improve client outcomes.
B. Student Learning Outcomes.

<table>
<thead>
<tr>
<th>Upon successful completion of the course, the student will be able to:</th>
<th>The student learning outcome will be assessed by one or more of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explain the etiology and diagnostic criteria of Autism Spectrum Disorder.</td>
<td>Graded in-class activities, quizzes, and/or exams</td>
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<tr>
<td>Describe the impact of Autism Spectrum Disorder on behavior, including communication, social behavior, cognitive/academic performance, and motor skills.</td>
<td>Graded in-class activities, written papers, quizzes, and/or exams</td>
</tr>
<tr>
<td>Specify and demonstrate common behavioral treatment strategies for addressing skill deficits and problem behavior in Autism Spectrum Disorder.</td>
<td>Graded in-class role play, class presentations, and/or case studies</td>
</tr>
<tr>
<td>Describe how to effectively work with families and caregivers of individuals diagnosed with Autism Spectrum Disorder to improve client outcomes.</td>
<td>Graded in-class activities, written paper, and/or exams</td>
</tr>
</tbody>
</table>

VI. Topic Course Outline


1. History and culture of people with Autism Spectrum Disorder (ASD)
   a. Key historical events in the community of people diagnosed with ASD
   b. Current and local cultural conditions influencing treatment choices for ASD
   c. Myths, fads, and controversies in the treatment of ASD
   d. Movements, legislation, educational, and legal issues affecting people with ASD

2. Critical aspects of ASD
   a. Sensory differences
   b. Communication differences
   c. Social skill differences
   d. Common comorbid conditions

3. Diagnostic and assessment procedures
   a. Diagnostic criteria
   b. Screening tools
   c. Assessments
     i. Assessment of Basic Language and Learning Skills (ABLLS)
     ii. Verbal Behavioral Milestones Assessment and Placement Program (VB-MAPP)
     iii. Functional Assessment of behavior

4. Evidence-based behavior management approaches
   a. Choosing appropriate treatment
     i. Reviewing best available scientific evidence for interventions
     ii. Critically evaluating the evidence regarding effectiveness, efficacy, and side effects of interventions
iii. Educating clients about risks and benefits of alternative interventions and/or combinations of interventions (including potential interference with behavior analytic intervention)

iv. Educating other professionals and organizations (e.g., school districts, government, insurance companies) about risks and benefits of alternative interventions and/or combinations of interventions

b. Behavior analytic treatment

i. Behavior analytic versus non-behavior analytic interventions

ii. Behavioral strategies to teach skills

iii. Behavioral strategies to decrease dangerous or disruptive behavior

5. Systems and support
   a. Working with families
   b. Family and caregiver training
   c. Working with treatment teams
   d. Training paraprofessionals
   e. Person centered planning
   f. Designing effective treatment
      i. Setting considerations
      ii. Goodness of fit

6. Ethical Behavior
   a. Appropriate conduct of the treatment professional
   b. Operating within the scope of competence

VII. Suggested Texts


VIII. Bibliography and Resources


*Seminal works in the field.*
### 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>
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</tr>
</thead>
<tbody>
<tr>
<td>AS CAS</td>
<td>ASSC Division of Social Science</td>
<td>PSY</td>
</tr>
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</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>PSY</td>
<td>A647</td>
<td>N/A</td>
<td>3.0</td>
<td>(Lecture + Lab)</td>
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</table>

#### 6. Complete Course Title

Introduction to the Behavioral Treatment of Autism Spectrum Disorder  
Intro to Beh Tx of Autism ASD  
Abbreviated Title for Transcript (30 character): Intro to Beh Tx of Autism ASD

#### 7. Type of Course

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

#### 8. Type of Action:  

- [X] 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  
- [ ] Registration 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

- From: Fall/2014  
- To: Fall/9999

#### 12. [ ] Cross Listed with

- [X] Stacked with PSY A474

#### 13a. Impacted Courses or Programs

<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. Courtesy</td>
<td>December 1, 2013</td>
<td>Claudia Lampman</td>
</tr>
<tr>
<td>2. MEd in Special Education / EDSE A633 Autism: Communication and Social Disorders</td>
<td>December 2, 2013</td>
<td>Jeff Bailey</td>
</tr>
</tbody>
</table>

Initiator Name (typed): Veronica Howard  
Initiator Signed Initials: __________  
Date: __________________

#### 13b. Coordination Email

Date: December 2, 2013  
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

#### 13c. Coordination with Library Liaison

Date: December 2, 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)

An introduction to Autism Spectrum Disorder, including etiology, impact of the disorder on behavior, treatment options, and the role of family and community supports. Course will emphasize community-based behavioral treatment and early intensive behavioral intervention.

**Special note:** PSY A647 cannot be taken for credit if PSY A474 was previously taken for credit.

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

PSY A600

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

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

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

#### 16d. 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

Adding course to address needed workforce development of Autism Spectrum Disorder treatment professionals in Alaska. We are adding this course as an elective for graduate students who are pursing degrees in helping related professions (e.g., psychology, social work, human services).

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<table>
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I. Initiation Date: January 22, 2014

II. Curriculum Action Request
1. College: College of Arts and Sciences
2. Course Title: Introduction to the Behavioral Treatment of Autism Spectrum Disorder
3. Course Prefix: PSY A647
4. Credit Hours: 3 + 0
5. Contact Time: 3
6. Grading Information: A - F
7. Course Description: An introduction to Autism Spectrum Disorder, including etiology, impact of the disorder on behavior, treatment options, and the role of family and community supports. Course will emphasize community-based behavioral treatment and early intensive behavioral intervention.

Special note: PSY A647 cannot be taken for credit if PSY A474 was previously taken for credit.

8. Status of course relative to degree or certification program: Elective
9. Course Fees: None
10. Coordination: UAA faculty list-serve
11. Cross-listed/Stacked: Stacked with PSY A474
12. Course Prerequisites: PSY A600
13. Course Co-requisites: N/A
14. Other Restrictions: N/A
15. Registration Restrictions: Graduate standing

III. Course Activities
Lecture and classroom-based activities, including substantive contribution to class discussion and coordination of a class topic discussion activity.

IV. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:
1. Describe the etiology and diagnosis of Autism Spectrum Disorder.
2. Describe the impact of Autism Spectrum Disorder on behavior, including communication, social behavior, cognitive/academic performance, and motor skills.
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<td>Describe the impact of Autism Spectrum Disorder on behavior, including communication, social behavior, cognitive/academic performance, and motor skills.</td>
<td>Graded in-class activities, quizzes, and/or tests as well as developing discussion topics based on primary sources and leading a lecture on a class topic.</td>
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<td>Specify and demonstrate common behavioral treatment strategies for addressing skill deficits and problem behavior in Autism Spectrum Disorder.</td>
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<tr>
<td>Critically analyze primary source material.</td>
<td>Term paper, class presentations, and/or leading a lecture on a class topic.</td>
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V. Topic Course Outline


1. History and culture of people with Autism Spectrum Disorder (ASD)
   a. Key historical events in the community of people diagnosed with ASD
   b. Current and local cultural conditions influencing treatment choices for ASD
   c. Myths, fads, and controversies in the treatment of ASD
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   d. Common comorbid conditions

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   c. Assessments
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      ii. Verbal Behavioral Milestones Assessment and Placement Program (VB-MAPP)
      iii. Functional Assessment of behavior

4. Evidence-based behavior management approaches
a. Choosing appropriate treatment
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   ii. Critically evaluating the evidence regarding effectiveness, efficacy, and side effects of interventions
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b. Behavior analytic treatment
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   a. Working with families
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   c. Working with treatment teams
   d. Training paraprofessionals
   e. Person centered planning
   f. Designing effective treatment
      i. Setting considerations
      ii. Goodness of fit

6. Ethical Behavior
   a. Appropriate conduct of the treatment professional
   b. Operating within the scope of competence

 VI. Suggested Texts


VII. Bibliography and Resources


*Seminal works in the field.
# 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>(Lecture + Lab)</td>
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<th>7. Type of Course</th>
<th>8. Type of Action</th>
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<td>Preparatory/Development</td>
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<th>10. Grading Basis</th>
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<td># of Repeats</td>
<td>A-F</td>
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<td>To: Fall/9999</td>
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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>December 1, 2013</td>
<td>Claudia Lampman</td>
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<tr>
<td>2. Courtesy--Business Administration BA A300</td>
<td>December 2, 2013</td>
<td>Edward Forrest</td>
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Initiator Name (typed): Veronica Howard
Initiator Signed Initials: _________
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)

An exploration of the field of organizational psychology known as organizational behavior management. Topics will include effective staff training and support strategies, performance management, organizational system analysis, and behavior-based safety, implementation science, and effective consultation strategies.

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

PSY A400 with a grade of B or higher.

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

N/A

16c. Other Restriction(s)

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

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

17. Mark if course has fees
Mark if course is a selected topic course

19. Justification for Action

PSY A476 will be an upper division elective for the Psychology BA and BS degrees and will be a selective for the concentration in Behavior Analysis that prepares students to apply for professional certification and/or to work in many social service agencies.

Initiator (faculty only)

Veronica Howard

Initiator (TYPE NAME)

Approved [ ] Disapproved [ ]

Dean/Director of School/College

Signature

Date

Approved [ ] Disapproved [ ]

Undergraduate/Graduate Academic

Date

Approved [ ] Disapproved [ ]

Board Chair

Date

Approved [ ] Disapproved [ ]

Provost or Designee

Date

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I. Initiation Date: January 22, 2014

II. Curriculum Action Request
1. College: College of Arts and Sciences
2. Course Title: Organizational Behavior Management
3. Course Prefix: PSY A467
4. Credit Hours: 3 + 0
5. Contact Time: 3
6. Grading Information: A - F
7. Course Description: An exploration of the field of organizational psychology known as organizational behavior management. Topics will include effective staff training and support strategies, performance management, organizational system analysis, and behavior-based safety, implementation science, and effective consultation strategies.
8. Status of course relative to degree or certification program: Selective for concentration in Behavior Analysis
9. Course Fees: None
10. Coordination: UAA faculty list-serve
11. Cross-listed/Stacked: Stacked with PSY A667
12. Course Prerequisites: PSY A400 with a grade of B or higher
13. Course Co-requisites: N/A
14. Other Restrictions: N/A
15. Registration Restrictions: N/A

III. Course Activities
Lecture and classroom-based activities.

IV. Course Level Justification
The course requires an understanding and ability to apply the principles of behavior analysis developed in PSY A400.

V. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:
   1. Describe how principles of behavior analysis can be applied to the behavior of employees to improve workplace functioning (e.g., performance management, behavioral systems analysis, and behavior-based safety).
   2. Describe empirically supported strategies for training teachers, caregivers, and staff.
   3. Describe how outcomes are measured in organizational behavior management interventions.
   4. Introduce students to research on implementation science and program survival, and describe the role of a behavioral consultant.

B. Student Learning Outcomes.
### Upon successful completion of the course, the student will be able to:

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify similarities and differences between performance management, behavioral systems analysis, and behavior-based safety.</td>
<td>Graded in-class activities, quizzes, and/or exams</td>
</tr>
<tr>
<td>Describe and design effective training programs.</td>
<td>Graded in-class activities, case studies, quizzes, and/or exams</td>
</tr>
<tr>
<td>Describe how outcomes are measured in organizational behavior management (OBM) interventions.</td>
<td>Graded in-class activities, quizzes, and/or exams</td>
</tr>
<tr>
<td>Describe what implementation science is and how it can inform interventions that will sustain in the working environment.</td>
<td>Graded in-class activities, quizzes, and/or exams</td>
</tr>
</tbody>
</table>

### VI. Topic Course Outline

1. **Fundamentals of Organizational Behavior Management (OBM)**
   a. Performance Management
   b. Behavioral Systems Analysis
   c. Behavior-Based Safety

2. **Performance Management**
   a. The ABCs of workplace behavior
      i. Antecedent interventions (e.g., job aids, task clarification, training)
      ii. Workplace behavior (e.g., defining success, pinpointing key behaviors)
      iii. Consequence Interventions (e.g., feedback, reinforcement in the workplace)
   b. Selecting, defining, and measuring behavior in the workplace
      i. Selecting meaningful behavior to change (i.e., goal setting, pinpointing, PIC/NIC© Analysis)
      ii. Methods of observation used in OBM interventions
      iii. Experimental designs and experimental control
      iv. Balancing the needs of organizations and employees

3. **Changing staff behavior**
   a. Staff behavior change methods
      i. Performance-based training versus competency-based training
      ii. Antecedent strategies used to improve staff performance
      iii. Consequent strategies used to improve staff performance
      iv. Most effective interventions to improve staff performance
   b. Maintaining staff performance

4. **Implementation Science**
   a. Conducting interventions within the community
   b. Measuring environmental readiness for change
   c. Stages of implementation
   d. Defining intervention core components
   e. Defining evidence-based interventions
   f. Strategies that foster adoption and survival of interventions
5. Effective consultation strategies
   a. Building rapport
   b. Training clients (e.g., parents, paraprofessionals, managers)
   c. Gaining buy-in

VII. Suggested Texts


VIII. Bibliography and Resources


### Course Action Request

**University of Alaska Anchorage**

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

**1a. School or College:**  
AS CAS  
**1b. Division:**  
ASSC Division of Social Science  
**1c. Department:**  
PSY

**2. Course Prefix:**  
PSY  
**3. Course Number:**  
A667  
**4. Previous Course Prefix & Number:**  
N/A  
**5a. Credits/CEUs:**  
3.0  
**5b. Contact Hours:**  
Lecture + Lab (3+0)

**6. Complete Course Title:**  
Introduction to Organizational Behavior Management  
Intro to OBM  
**Abbreviated Title for Transcript (30 character):**  
Intro to OBM

**7. Type of Course:**  
- [x] 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

Let College Major Class Level (please specify)

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

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

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

**12. Cross Listed with**  
- [x] Stacked with PSY A476

**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](http://www.uaa.alaska.edu/governance).

<table>
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<td>December 1, 2013</td>
<td>Claudia Lampman</td>
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<td>Edward Forrest</td>
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**Initiator Name (typed):** Veronica Howard  
**Initiator Signed Initials:** _________  
**Date:**________________

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

**Date:** December 2, 2013

**13c. Coordination with Library Liaison**  
Date: December 2, 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):**  
An introduction to the field of organizational psychology known as organizational behavior management. Topics will include effective staff training and support strategies, performance management, organizational system analysis, and behavior-based safety, implementation science, and effective consultation strategies.

Special note: PSY A667 cannot be taken for credit if PSY A476 was previously taken for credit.

**16a. Course Prerequisite(s) (list prefix and number or test code and score):**  
PSY A600

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

**16c. Other Restriction(s):**  
- [ ] College  
- [ ] Major  
- [ ] Class  
- [ ] Level

**16d. 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:**  
We are adding this course as an elective for graduate students who are pursuing degrees in helping related professions (e.g., psychology, social work, human services).
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<th>Provost or Designee</th>
<th>Date</th>
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160
University of Alaska Anchorage  
Course Content Guide  

I. Initiation Date: January 22, 2014  

II. Curriculum Action Request  
1. College: College of Arts and Sciences  
2. Course Title: Introduction to Organizational Behavior Management  
3. Course Prefix: PSY A667  
4. Credit Hours: 3 + 0  
5. Contact Time: 3  
6. Grading Information: A - F  
7. Course Description: An introduction to the field of organizational psychology known as organizational behavior management. Topics will include effective staff training and support strategies, performance management, organizational system analysis, and behavior-based safety, implementation science, and effective consultation strategies.  
8. Status of course relative to degree or certification program: Selective for concentration in Behavior Analysis  
9. Course Fees: None  
10. Coordination: UAA faculty list-serve  
11. Cross-listed/Stacked: Stacked with PSY A476  
12. Course Prerequisites: PSY A600  
13. Course Co-requisites: N/A  
14. Other Restrictions: N/A  
15. Registration Restrictions: Graduate standing  

III. Course Activities  
Lecture and classroom-based activities, including substantive contribution to class discussion and coordination of a class topic discussion activity.  

IV. Instructional Goals and Student Learning Outcomes  
A. Instructional Goals. The instructor will:  
1. Describe how principles of behavior analysis can be applied to the behavior of employees to improve workplace functioning (e.g., performance management, behavioral systems analysis, and behavior-based safety).  
2. Describe empirically supported strategies for training teachers, caregivers, and staff.  
3. Describe how outcomes are measured in organizational behavior management interventions.  
4. Introduce students to research on implementation science and program survival, and describe the role of a behavioral consultant.
B. Student Learning Outcomes.

<table>
<thead>
<tr>
<th>Upon successful completion of the course, the student will be able to:</th>
<th>The student learning outcome will be assessed by one or more of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify similarities and differences between performance management, behavioral systems analysis, and behavior-based safety.</td>
<td>Graded in-class activities, quizzes, and/or exams.</td>
</tr>
<tr>
<td>Describe and design effective training programs.</td>
<td>Graded in-class activities, case studies, quizzes, development of discussion topics based on primary sources, and/or exams.</td>
</tr>
<tr>
<td>Describe how outcomes are measured in organizational behavior management (OBM) interventions.</td>
<td>Graded in-class activities, quizzes, development of discussion topics based on primary sources, and/or exams.</td>
</tr>
<tr>
<td>Describe what implementation science is and how it can inform interventions that will sustain in the working environment.</td>
<td>Graded in-class activities, quizzes, development of discussion topics based on primary sources, and/or exams.</td>
</tr>
<tr>
<td>Critically analyze primary source material.</td>
<td>Term paper, class presentations, and/or leading a lecture on a class topic.</td>
</tr>
</tbody>
</table>

V. Topic Course Outline

1. Fundamentals of Organizational Behavior Management (OBM)
   a. Performance Management
   b. Behavioral Systems Analysis
   c. Behavior-Based Safety

2. Performance Management
   a. The ABCs of workplace behavior
      i. Antecedent interventions (e.g., job aids, task clarification, training)
      ii. Workplace behavior (e.g., defining success, pinpointing key behaviors)
      iii. Consequence Interventions (e.g., feedback, reinforcement in the workplace)
   b. Selecting, defining, and measuring behavior in the workplace
      i. Selecting meaningful behavior to change (i.e., goal setting, pinpointing, PIC/NIC© Analysis)
      ii. Methods of observation used in OBM interventions
      iii. Experimental designs and experimental control
      iv. Balancing the needs of organizations and employees

3. Changing staff behavior
   a. Staff behavior change methods
      i. Performance-based training versus competency-based training
      ii. Antecedent strategies used to improve staff performance
      iii. Consequent strategies used to improve staff performance
      iv. Most effective interventions to improve staff performance
   b. Maintaining staff performance

4. Implementation Science
   a. Conducting interventions within the community
b. Measuring environmental readiness for change

c. Stages of implementation

d. Defining intervention core components

e. Defining evidence-based interventions

f. Strategies that foster adoption and survival of interventions

5. Effective consultation strategies
   a. Building rapport
   b. Training clients (e.g., parents, paraprofessionals, managers)
   c. Gaining buy-in

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>
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<th>1c. Department</th>
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<td>PSY</td>
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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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<tr>
<td>PSY</td>
<td>A478</td>
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## Complete Course Title

**Advanced Applications of Behavior Analysis**

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

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<th>7. Type of Action</th>
<th>8. Type of Action:</th>
<th>9. Repeat Status No</th>
<th>10. Grading Basis</th>
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<th>12. Cross Listed with</th>
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**Initiator Name (typed): Veronica Howard**

**Initiator Signed Initials:**

**Date:**

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<th>13a. Impacted Courses or Programs: List any programs or college requirements that require this course.</th>
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**Initiator Signed Initials:**

**Date:**

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<td></td>
<td>Integrative Capstone</td>
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<tr>
<th>15. Course Description (suggested length 20 to 50 words)</th>
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<tr>
<td>Advanced exploration of topics in behavior analysis. This course will emphasize the role of the behavior analyst as a scientist-practitioner. Topics will include the philosophical history of behaviorism, modern behavioral research, and study of applications of behavior analysis to socially relevant issues. Special note: This course is of particular value for students preparing for graduate education in behavioral science.</td>
</tr>
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</table>

<table>
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<tr>
<th>16a. Course Prerequisite(s) (list prefix and number or test code and score)</th>
<th>16b. Co-requisite(s) (concurrent enrollment required)</th>
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<tr>
<td>PSY A400 with a grade of B or higher</td>
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<th>18. Mark if course is a selected topic course</th>
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<th>19. Justification for Action</th>
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<td>Course will be added as an upper division elective in the Behavior Analysis concentration.</td>
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**Initiator (faculty only): Veronica Howard**

**Initiator (TYPE NAME):**

**Approved**

**Disapproved**

**Dean/Director of School/College:**

**Undergraduate/Graduate Academic:**

**Board Chair:**

**Provost or Designee:**

**Date:**

**Department Chair:**

**Approved**

**Disapproved**

**Date:**

**College/School Curriculum Committee Chair:**

**Approved**

**Disapproved**

**Date:**

165
I. Initiation Date: January 22, 2014

II. Curriculum Action Request
1. College: College of Arts and Sciences
2. Course Title: Advanced Applications of Behavior Analysis
3. Course Prefix: PSY A478
4. Credit Hours: 3 + 0
5. Contact Time: 3
6. Grading Information: A - F
7. Course Description: Advanced exploration of topics in behavior analysis. This course will emphasize the role of the behavior analyst as a scientist-practitioner. Topics will include the philosophical history of behaviorism, modern behavioral research, and application of behavior analysis to socially relevant problems. Special note: This course is of particular value for graduate students or those preparing for graduate education in behavioral science.
8. Status of course relative to degree or certification program: Selective for the concentration in Behavior Analysis
9. Course Fees: None
10. Coordination: UAA faculty list-serve
11. Cross-listed/Stacked: Stacked with PSY A678
12. Course Prerequisites: PSY A400 with a minimum grade of B
13. Course Co-requisites: N/A
14. Other Restrictions: N/A
15. Registration Restrictions: N/A

III. Course Activities
Lecture and classroom-based activities.

IV. Course Level Justification
The course requires an understanding of principles of behavior analysis learned in PSY A400.

V. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:
   1. Explain the philosophical assumptions of behavior analysis and guide class discussion on assigned readings.
   2. Explain the importance of science in clinical practice.
   3. Describe the role of the behavior analyst as a scientist-practitioner.
   4. Describe advanced topics in behavior analysis and guide class discussion on assigned readings.
B. Student Learning Outcomes.

<table>
<thead>
<tr>
<th>Upon successful completion of the course, the student will be able to:</th>
<th>The student learning outcome will be assessed by one or more of the following:</th>
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<tbody>
<tr>
<td>Explain the philosophical assumptions of behavior analysis.</td>
<td>Graded in-class activities, quizzes, and/or tests.</td>
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<tr>
<td>Describe the role of the behavior analyst as a scientist-practitioner and explain the importance of science in clinical practice.</td>
<td>Graded in-class activities, quizzes, case studies, written papers, and/or tests.</td>
</tr>
<tr>
<td>Explain advanced topics such as matching law and behavioral economics, behavior analysis in education, and the behavioral philosophy relating to private events like thoughts and feelings.</td>
<td>Graded in-class activities, quizzes, class presentations, written papers, and/or tests.</td>
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VI. Topic Course Outline

*Course content should change to reflect contemporary issues in behavioral science.*

1. Advanced exploration of behavioral philosophy
   a. Determinism
   b. Selectionism
2. The Behavior Analyst as a scientist-practitioner
   a. Rationale for understanding basic principles and concepts
   b. Translational research
   c. Implementation Science
3. Choice making
   a. Matching law
   b. Behavioral economics
   c. Quantitative models of choice
   d. Self-control and impulsivity
4. Treatment of maladaptive behavior with non-disordered populations
   a. Substance use disorders
   b. Gambling
   c. Obesity
5. Behavioral views of private events
   a. Consciousness
   b. Relational Frame Theory
   c. Acceptance and Commitment Therapy
6. Behavioral animal training
   a. Treating problem behavior in pet animals
   b. Training for detection tasks (e.g., disease, drugs, physical hazards)
7. Behavior analysis in education
   a. Direct Instruction
   b. Personalized Systems of Instruction
   c. Interteaching
8. Promotion of treatment integrity in behavioral interventions
   a. Implementation Science
   b. Translational research
VII. **Suggested Texts**
Selected readings to be provided by the instructor.

VIII. **Bibliography and Resources**


*Seminal works in the field
## Course Action Request

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

<table>
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### Complete Course Title

Applications of Behavior Analysis
Applications of Beh Analysis

**Abbreviated Title for Transcript (30 character):** Applications of Beh Analysis

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

An exploration of topics in behavior analysis. This course will emphasize the role of the behavior analyst as a scientist-practitioner. Topics will include the philosophical history of behaviorism, modern behavioral research, and study of applications of behavior analysis to socially relevant issues.

**Special note:** PSY A678 cannot be taken for credit if PSY A478 was previously taken for credit.

### Course Co-requisite(s)

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

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<th>16a. Course Prerequisite(s) (list prefix and number or test code and score)</th>
<th>16c. Other Restrictions(s)</th>
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### Other Restriction(s)

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

- Graduate standing

### Mark if course has fees

17. Mark if course has fees

### Mark if course is a selected topic course

18. Mark if course is a selected topic course

### Justification for Action

We are adding this course as an elective for graduate students who are pursing degrees in helping related professions (e.g., psychology, social work, human services).
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University of Alaska Anchorage
Course Content Guide

I. Initiation Date: January 22, 2014

II. Curriculum Action Request
1. College: College of Arts and Sciences
2. Course Title: Applications of Behavior Analysis
3. Course Prefix: PSY A678
4. Credit Hours: 3 + 0
5. Contact Time: 3
6. Grading Information: A - F
7. Course Description: An exploration of topics in behavior analysis. This course will emphasize the role of the behavior analyst as a scientist-practitioner. Topics will include the philosophical history of behaviorism, modern behavioral research, and application of behavior analysis to socially relevant problems. Special note: This course is of particular value for graduate students or those preparing for graduate education in behavioral science.

Special note: PSY A678 cannot be taken for credit if PSY A478 was previously taken for credit.

8. Status of course relative to degree or certification program: Selective for the concentration in Behavior Analysis
9. Course Fees: None
10. Coordination: UAA faculty list-serve
11. Cross-listed/Stacked: Stacked with PSY A478
12. Course Prerequisites: PSY A600
13. Course Co-requisites: N/A
14. Other Restrictions: N/A
15. Registration Restrictions: Graduate standing

III. Course Activities
Lecture and classroom-based activities, including substantive contribution to class discussion and coordination of a class topic discussion activity.

IV. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:
1. Explain the philosophical assumptions of behavior analysis and guide class discussion on assigned readings.
2. Explain the importance of science in clinical practice.
3. Describe the role of the behavior analyst as a scientist-practitioner.
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B. Student Learning Outcomes.

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<tbody>
<tr>
<td>Explain the philosophical assumptions of behavior analysis.</td>
<td>Graded in-class activities, quizzes, and/or tests.</td>
</tr>
<tr>
<td>Describe the role of the behavior analyst as a scientist-practitioner and explain the importance of science in clinical practice.</td>
<td>Graded in-class activities, quizzes, case studies, written papers, and/or tests.</td>
</tr>
<tr>
<td>Explain advanced topics such as matching law and behavioral economics, behavior analysis in education, and the behavioral philosophy relating to private events like thoughts and feelings.</td>
<td>Graded in-class activities, quizzes, written papers, and/or tests as well as developing discussion topics based on primary sources and leading a lecture on a class topic.</td>
</tr>
<tr>
<td>Critically analyze primary source material.</td>
<td>Term paper, class presentations, and/or leading a lecture on a class topic.</td>
</tr>
</tbody>
</table>

V. Topic Course Outline

*Course content should change to reflect contemporary issues in behavioral science.*

1. Advanced exploration of behavioral philosophy
   a. Determinism
   b. Selectionism
2. The Behavior Analyst as a scientist-practitioner
   a. Rationale for understanding basic principles and concepts
   b. Translational research
   c. Implementation Science
3. Choice making
   a. Matching law
   b. Behavioral economics
   c. Quantitative models of choice
   d. Self-control and impulsivity
4. Treatment of maladaptive behavior with non-disordered populations
   a. Substance use disorders
   b. Gambling
   c. Obesity
5. Behavioral views of private events
   a. Consciousness
   b. Relational Frame Theory
   c. Acceptance and Commitment Therapy
6. Behavioral animal training
   a. Treating problem behavior in pet animals
   b. Training for detection tasks (e.g., disease, drugs, physical hazards)
7. Behavior analysis in education
   a. Direct Instruction
   b. Personalized Systems of Instruction
   c. Interteaching
8. Promotion of treatment integrity in behavioral interventions
   a. Implementation Science
b. Translational research

VI. Suggested Texts
Selected readings to be provided by the instructor.

VII. Bibliography and Resources


*Seminal works in the field*
### 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>ASSC Division of Social Science</td>
<td>PSY</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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<tbody>
<tr>
<td>PSY</td>
<td>A495A</td>
<td>A495</td>
<td>3.0</td>
<td>(Lecture + Lab) (1+6)</td>
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<table>
<thead>
<tr>
<th>6. Complete Course Title</th>
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<tbody>
<tr>
<td>Applied Behavior Analysis Practicum and Professional Issues</td>
</tr>
<tr>
<td>ABA Practicum &amp; Prof. Issues</td>
</tr>
<tr>
<td>Abbreviated Title for Transcript (30 character)</td>
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<tr>
<th>7. Type of Course</th>
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<tr>
<td>☒ Academic</td>
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<td>☐ Preparatory/Development</td>
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<td>☐ Non-credit</td>
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<td>☐ CEU</td>
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<td>☐ Professional Development</td>
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<th>8. Type of Action:</th>
<th>☐ Add</th>
<th>☒ Change</th>
<th>☐ Delete</th>
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</table>

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

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<td>semester/year</td>
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<table>
<thead>
<tr>
<th>13a. Impacted Courses or Programs:</th>
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</thead>
<tbody>
<tr>
<td>List any programs or college requirements that require this course.</td>
</tr>
</tbody>
</table>

**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).**

**Impacted Program/Course**  
<table>
<thead>
<tr>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 1, 2013</td>
<td>Claudia Lampman</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>13b. Coordination Email</th>
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<tr>
<td>Date: December 2, 2013</td>
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**submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)**

<table>
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<th>Date: December 2, 2013</th>
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<tr>
<td>☐ Written Communication</td>
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<tr>
<td>☐ Quantitative Skills</td>
</tr>
<tr>
<td>☒ Social Sciences</td>
</tr>
<tr>
<td>☐ Natural Sciences</td>
</tr>
<tr>
<td>☐ Integrative Capstone</td>
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<table>
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<tr>
<th>15. Course Description (suggested length 20 to 50 words)</th>
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<tbody>
<tr>
<td>Arranged placement in supervised settings that provide Applied Behavior Analytic (ABA) services. Focus on implementing behavior change procedures, data collection and graphing, program development, functional behavior assessment, behavior intervention plans, and ethical and professional conduct by practicing behavior analysts. Special note: meets the departmental capstone requirement for Psychology Major.</td>
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<th>16a. Course Prerequisite(s) (list prefix and number or test code and score)</th>
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<tr>
<td>(PSY A400 and (PSY A455 or PSY A474 or PSY A476 or PSY A479)) with a minimum grade of B.</td>
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<th>16b. Co-requisite(s) (concurrent enrollment required)</th>
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<td>☐ Major</td>
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<td>☐ Class</td>
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<tr>
<td>☐ Level</td>
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<th>16d. Registration Restriction(s) (non-codable)</th>
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<tbody>
<tr>
<td>Instructor permission</td>
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| 17. ☒ Mark if course has fees |

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

<table>
<thead>
<tr>
<th>19. Justification for Action</th>
</tr>
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<tbody>
<tr>
<td>Current course revised to add a prerequisite and to emphasize professional skill objectives provided by the Behavior Analysis Certification Board, the organization that offers professional certification in Behavior Analysis.</td>
</tr>
<tr>
<td>Initiator (faculty only)</td>
</tr>
<tr>
<td>--------------------------</td>
</tr>
<tr>
<td>Veronica Howard</td>
</tr>
<tr>
<td>Initiator (TYPE NAME)</td>
</tr>
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</tr>
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<td>□ Approved</td>
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<tr>
<td>Department Chair</td>
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<tr>
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<tr>
<td>□ Approved</td>
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<tr>
<td>□ Disapproved</td>
</tr>
<tr>
<td>College/School Curriculum Committee Chair</td>
</tr>
</tbody>
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University of Alaska Anchorage  
Course Content Guide

I. Initiation Date: January 22, 2014

II. Curriculum Action Request  
1. College: College of Arts and Sciences  
2. Course Title: Applied Behavior Analysis Practicum & Professional issues  
3. Course Prefix: PSY A495A  
4. Credit Hours: 3.0 Credits  
5. Contact Time: Lecture Hours: 1  
Practicum Hours: 6  
6. Grading Information: A - F  
7. Course Description: Arranged placement in supervised settings that provide Applied Behavior Analytic (ABA) services. Focus on implementing behavior change procedures, data collection and graphing, program development, functional behavior assessment, behavior intervention plans, and ethical and professional conduct by practicing behavior analysts. Special note: meets the departmental capstone requirement for Psychology major.  
8. Status of course relative to degree or certification program: Required for concentration in Behavior Analysis  
9. Course Fees: Yes  
10. Coordination: UAA faculty list-serve  
11. Cross-listed/Stacked: N/A  
12. Course Prerequisites: [PSY A400 and (PSY A455 or PSY A474 or PSY A476 or PSY A478)] with a minimum grade of B.  
13. Course Co-requisites: N/A  
14. Other Restrictions: N/A  
15. Registration Restrictions: N/A

III. Course Activities  
**Lecture:** Students will attend lectures related to ethical/professional conduct and fieldwork activities.  
**Agency Placement:** Students will submit a university-approved field experience agreement signed by the agency or placement site where the student will complete practicum experience in an approved ABA setting. Students are required to keep an activity log of their experiences.

IV. Course Level Justification  
The course requires an understanding and ability to apply principles of behavior analysis learned in PSY A400 and other upper division elective courses in the Behavior Analysis Concentration (e.g., PSY A455, PSY A474, PSY A476, and/or PSY A478). This course is designed for students who have an understanding of behavior analytic processes to gain hands-on experience that will
allow synthesis and application of course material to behavior of actual clients, and to help students develop skills related to the many positions requiring knowledge of human behavior.

V. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:
1. Describe the qualities of an effective intervention team.
2. Provide specific feedback on student performance to engender improvement.
3. Structure the learning environment to facilitate critical thinking, problem solving, and decision making.
4. Structure the learning environment to facilitate development of professional behavior.

B. Student Learning Outcomes.

Upon successful completion of the course, the student will be able to:

<table>
<thead>
<tr>
<th>The student learning outcome will be assessed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>one or more of the following:</td>
</tr>
<tr>
<td>Apply communication skills, intervention skills, and professional behavior when providing services.</td>
</tr>
<tr>
<td>Graded in-class activities, quizzes, and on-site supervisor evaluation(s).</td>
</tr>
<tr>
<td>Write behavior support plans based on the results of observations and assessments.</td>
</tr>
<tr>
<td>Graded in-class activities, quizzes, written assignments, and on-site supervisor evaluation(s).</td>
</tr>
<tr>
<td>Apply critical thinking, problem solving, and decision making skills related to service delivery.</td>
</tr>
<tr>
<td>Graded in-class activities, discussion, quizzes, and on-site supervisor evaluation(s).</td>
</tr>
<tr>
<td>Implement behavior support plans with fidelity and collect behavioral data reliably.</td>
</tr>
<tr>
<td>Graded in-class activities, quizzes, and on-site supervisor evaluation(s).</td>
</tr>
</tbody>
</table>

VI. Topic Course Outline


1. Identification of Problem
   a. Review records and available data at the outset of the case.
   b. Consider biological/medical variables that may be affecting the client.
   c. Conduct a preliminary assessment of the client in order to identify the referral problem.
   d. Explain behavioral concepts using nontechnical language.
   e. Describe and explain behavior, including private events, in behavior-analytic (nonmentalistic) terms.
   f. Provide behavior-analytic services in collaboration with others who support and/or provide services to one’s clients.
   g. Practice within one’s limits of professional competence in applied behavior analysis, and obtain consultation, supervision, and training, or make referrals as necessary.
   h. Identify and make environmental changes that reduce the need for behavior analysis services.

2. Measurement
   a. Select appropriate measurement systems given logistics of behavior and observation/recording
b. Accurately graph data to communicate relevant quantitative relations
c. Evaluate level, trend, variability
d. Evaluate temporal relations between observed variables

3. Assessment
   a. Defined behavior in observable, measurable terms
   b. Defined environmental variables in observable, measurable terms
   c. Implement individualized behavioral assessment and functional assessment procedures
   d. Organize, analyze, and interpret observed data
   e. Make recommendations regarding behavior that must be established, maintained, increased, or decreased
   f. Conduct preference assessments to identify putative reinforcers

4. Intervention
   a. State intervention goals in observable and measurable terms.
   b. Identify potential interventions based on assessment results and the best available scientific evidence.
   c. Select intervention strategies based on task analysis.
   d. Select intervention strategies based on client preferences.
   e. Select intervention strategies based on the client’s current repertoires.
   f. Select intervention strategies based on supporting environments.
   g. Select intervention strategies based on environmental and resource constraints.
   h. Select intervention strategies based on the social validity of the intervention.
   i. Identify and address practical and ethical considerations when using experimental designs to demonstrate treatment effectiveness.
   j. When a behavior is to be decreased, select an acceptable alternative behavior to be established or increased.
   k. Program for stimulus and response generalization.
   l. Program for maintenance.
   m. Select behavioral cusps as goals for intervention when appropriate.
   n. Arrange instructional procedures to promote generative learning (i.e., derived relations).
   o. Base decision-making on data displayed in various formats.

5. Implementation, Management, and Supervision
   a. Provide for ongoing documentation of behavioral services.
   b. Identify the contingencies governing the behavior of those responsible for carrying out behavior-change procedures and design interventions accordingly.
   c. Design and use competency-based training for persons who are responsible for carrying out behavioral assessment and behavior-change procedures.
   d. Design and use effective performance monitoring and reinforcement systems.
   e. Design and use systems for monitoring procedural integrity.
   f. Provide supervision for behavior-change agents.
   g. Evaluate the effectiveness of the behavioral program.
   h. Establish support for behavior-analytic services from direct and indirect consumers.
   i. Secure the support of others to maintain the client’s behavioral repertoires in their natural environments.
j. Arrange for the orderly termination of services when they are no longer required.

VII. Suggested Texts


VIII. Bibliography and Resources


*Seminal works in the field.*
Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
   AS CAS
2. Course Prefix
   PSY
3. Course Number
   A495B
4. Previous Course Prefix & Number
   N/A
5a. Credits/CEUs
   VAR (1-3)
5b. Contact Hours
   (Lecture + Lab) (0+9)
1b. Division
   ASSC Division of Social Science
1c. Department
   PSY

6. Complete Course Title
   Applied Behavior Analysis Supervised Practicum
   ABA Supervised Practicum

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
- Other Restrictions
- Class
- Level
- College
- Major
- Other

(a select topic course)

9. Repeat Status Yes ☑ No ☐
   # of Repeats 9
   Max Credits 10

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

11. Implementation Date
    Semester/year
    From: Fall/2014 To: Fall/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>Impact Program/Course</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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<td>1. Courtesy</td>
<td>December 1, 2013</td>
<td>Claudia Lampman</td>
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<td>3.</td>
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Initiator Name (typed): Veronica Howard Initiator Signed Initials: __________ Date: __________

13b. Coordination Email
    Date: December 2, 2013
    submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison
    Date: December 2, 2013

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

15. Course Description (suggested length 20 to 50 words)
    Arranged placement in supervised settings that provide Applied Behavior Analytic (ABA) services. This course will focus on professional skill development, accruing sufficient experience hours in preparation for certification as a Board Certified Assistant Behavior Analyst (BCaBA)®, and BCaBA® exam preparation.

16a. Course Prerequisite(s) (list prefix and number or test code and score)
    PSY A495A with grade of B or higher.

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

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

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

17. ☑ Mark if course has fees

18. ☑ Mark if course is a selected topic course

19. Justification for Action
    This course is being added to provide students a way to access hands-on experience supervised by a Board Certified Behavior Analyst®, necessary for qualifying to take the Behavior Analysis Certification Board® certification exam for Board Certified Assistant Behavior Analysts (BCaBAs)®.

Initiator (faculty only)
Veronica Howard
Initiator (TYPE NAME)

Approved Disapproved
Date           Dean/Director of School/College

Department Chair
Date           Disapproved
Approved

Undergraduate/Graduate Academic Board Chair
Date

College/School Curriculum Committee Chair
Date           Disapproved
Approved

Provost or Designee
Date
I. Initiation Date: January 22, 2014

II. Curriculum Action Request
1. College: College of Arts and Sciences
2. Course Title: Applied Behavior Analysis Supervised Practicum
3. Course Prefix: PSY A495B
4. Credit Hours: VAR (1-3)
5. Contact Time: 0 + 9 per credit hour
6. Grading Information: P/NP
7. Course Description: Arranged placement in supervised settings that provide Applied Behavior Analytic (ABA) services. This course will focus on professional skill development, accruing hands-on experience hours in preparation for certification as a Board Certified Assistant Behavior Analyst (BCaBA) ®, and BCaBA® exam preparation.
8. Status of course relative to degree or certification program: Elective for concentration in Behavior Analysis
9. Course Fees: Yes
10. Coordination: UAA faculty list-serve
11. Cross-listed/Stacked: N/A
12. Course Prerequisites: PSY A495A with a minimum grade of B
13. Course Co-requisites: N/A
14. Other Restrictions: N/A
15. Registration Restrictions: Instructor permission

III. Course Activities
Supervision: Students will attend individual and/or group supervision with a Board Certified Behavior Analyst (BCBA) ® in accordance with supervision requirements set forth by the Behavior Analyst Certification Board (BACB) ®. The student will also prepare for the Board Certified Behavior Analyst (BCaBA) ® using supervisor-approved training methods.
Agency Placement: Students will submit a university-approved field experience agreement signed by the agency or placement site where the student will complete practicum experience in an approved ABA setting. Students are required to keep an activity log of their experiences.
Exam Preparation (optional): Students who are close to completing all required experience to apply for the BACB ® BCaBA ® exam will prepare for the exam using supervisor-approved test preparation activities.

IV. Course Level Justification
The course requires an understanding of the professional skills developed in PSY A495A. This course is designed for students actively pursuing a career in behavior analysis and pursuing certification as a Board Certified Assistant Behavior Analyst (BCaBA) ®.
V. Instructional Goals and Student Learning Outcomes

A. Instructional Goals.
   The instructor will:
   1. Provide observation and specific performance feedback to engender improvement.
   2. Structure the learning environment to facilitate development and/or maintenance of professional behavior.
   3. Support students in preparation for the Board Certified Assistant Behavior Analyst (BCaBA)® certification exam.

B. Student Learning Outcomes.

<table>
<thead>
<tr>
<th>Upon successful completion of the course, the student will be able to:</th>
<th>The student learning outcome will be assessed by one or more of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply communication skills, intervention skills, and professional behavior when providing services.</td>
<td>Graded on-site supervisor evaluation(s).</td>
</tr>
<tr>
<td>Write behavior support plans based on the results of observations and assessments.</td>
<td>Graded written assignments and/or on-site supervisor evaluation(s).</td>
</tr>
<tr>
<td>Implement behavior support plans with fidelity and collect behavioral data reliably.</td>
<td>Graded on-site supervisor evaluation(s).</td>
</tr>
<tr>
<td>Demonstrate understanding of behavior analytic principles as measured using BCaBA sample or practice exam content.</td>
<td>Graded test preparation activities arranged by the practicum supervisor.</td>
</tr>
</tbody>
</table>

VI. Topic Course Outline


1. Identification of Problem
   a. Review records and available data at the outset of the case.
   b. Consider biological/medical variables that may be affecting the client.
   c. Conduct a preliminary assessment of the client in order to identify the referral problem.
   d. Explain behavioral concepts using nontechnical language.
   e. Describe and explain behavior, including private events, in behavior-analytic (non-mentalistic) terms.
   f. Provide behavior-analytic services in collaboration with others who support and/or provide services to one’s clients.
   g. Practice within one’s limits of professional competence in applied behavior analysis, and obtain consultation, supervision, and training, or make referrals as necessary.
   h. Identify and make environmental changes that reduce the need for behavior analysis services.

2. Measurement
   a. Select appropriate measurement systems given logistics of behavior and observation/recording
   b. Accurately graph data to communicate relevant quantitative relations
   c. Evaluate level, trend, variability
d. Evaluate temporal relations between observed variables

3. Assessment
   a. Defined behavior in observable, measurable terms
   b. Defined environmental variables in observable, measurable terms
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4. Intervention
   a. State intervention goals in observable and measurable terms.
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   c. Select intervention strategies based on task analysis.
   d. Select intervention strategies based on client preferences.
   e. Select intervention strategies based on the client’s current repertoires.
   f. Select intervention strategies based on supporting environments.
   g. Select intervention strategies based on environmental and resource constraints.
   h. Select intervention strategies based on the social validity of the intervention.
   i. Identify and address practical and ethical considerations when using experimental designs to demonstrate treatment effectiveness.
   j. When a behavior is to be decreased, select an acceptable alternative behavior to be established or increased.
   k. Program for stimulus and response generalization.
   l. Program for maintenance.
   m. Select behavioral cusps as goals for intervention when appropriate.
   n. Arrange instructional procedures to promote generative learning (i.e., derived relations).
   o. Base decision-making on data displayed in various formats.

5. Implementation, Management, and Supervision
   a. Provide for ongoing documentation of behavioral services.
   b. Identify the contingencies governing the behavior of those responsible for carrying out behavior-change procedures and design interventions accordingly.
   c. Design and use competency-based training for persons who are responsible for carrying out behavioral assessment and behavior-change procedures.
   d. Design and use effective performance monitoring and reinforcement systems.
   e. Design and use systems for monitoring procedural integrity.
   f. Provide supervision for behavior-change agents.
   g. Evaluate the effectiveness of the behavioral program.
   h. Establish support for behavior-analytic services from direct and indirect consumers.
   i. Secure the support of others to maintain the client’s behavioral repertoires in their natural environments.
   j. Arrange for the orderly termination of services when they are no longer required.

VII. Suggested Texts


**VIII. Bibliography and Resources**


*Seminal works in the field.*
To: John Mun  
CAS Course and Curriculum Committee

From: Gwen Lupfer, Associate Professor of Psychology

Subject: Concentration in Behavior Analysis

Date: December 2, 2013

This memorandum is in regard to the proposed addition of an undergraduate concentration in Behavior Analysis. A completed Program Action Request (PAR), proposed catalog copy revisions, and CARs/CCGs for four new courses (i.e., PSY A200, PSYA474/674, PSY A476/676, PSYA478/678) as well as revisions to three existing courses (i.e., PSY A400/600 [formerly 445], PSY A495 [now being split into 495A and 495B], and PSY A455/655) are being submitted with this memo. The courses will be options for Psychology major students to take as electives. Additionally, since all but one are upper-division courses and students need 42 upper division credits to graduate, completing this concentration will not require students to take any additional hours.

This concentration will prepare students for employment in the treatment of individuals diagnosed with autism spectrum disorder, developmental disabilities, substance use disorders, age related conditions like dementia and Alzheimer’s disease, and other challenging behaviors in the state of Alaska. Additionally, students who complete the concentration and accrue sufficient supervised practicum hours will be eligible to sit for the Board Certified Assistant Behavior Analyst (BCaBA) exam. The BCaBA title is internationally recognized; UAA students who obtain this certification will be qualified to design and deliver behavioral services under the supervision of Board Certified Behavior Analysts.

Autism is the fastest growing developmental disability (Kennedy Krieger Institute, 2007), and Alaskans often face difficulty finding appropriate behavioral services. The lack of treatment options for autism spectrum disorder in particular triggered the formation of the Ad Hoc Committee on Autism in 2005, which recommended expanding screening and treatment services in Alaska. Behavior Analysis is an established effective intervention that improves social skills and communication and decreases the severity and frequency of challenging behaviors (Children’s Services Evidence-Based Practice Advisory Committee, 2009). The UAA Psychology Department’s creation of the Behavior Analysis Concentration will benefit our students as well as the clients and communities they will serve in the future.

References


1a. School or College  
AS CAS

1b. Department  
PSY

2. Complete Program Title/PREFIX  
Bachelor of Arts, Psychology

3. Type of Program  

Choose one from the appropriate drop down menu:  
Undergraduate: or  
Graduate: 
Bachelor of Arts  
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: Fall/2014  To: Fall/9999

6a. Coordination with Affected Units  
Department, School, or College: College of Arts and Sciences  
Initiator Name (typed): Veronica Howard  
Initiator Signed Initials: _________  
Date:________________

6b. Coordination Email submitted to Faculty Listserv (uaa-faculty@lists.uaa.alaska.edu)  
Date: December 2, 2013

6c. Coordination with Library Liaison  
Date: December 2, 2013

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

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The undergraduate Psychology program offers mentorship and high-quality training in the science of behavior and mental processes and, in so doing, enriches the lives of our students, citizens of Alaska, and the field of psychology. In service of this mission, the faculty provides effective instruction, academic and career advising, research training, professional skill development, service opportunities, preparation for graduate school, and employment in the human service field.

The Psychology major requirements are flexible and are designed to serve a variety of career goals. Both the Bachelor of Arts and the Bachelor of Science degrees are available. The student majoring in psychology pursuing a general interest in human nature will probably take a different sequence of Psychology courses than a student who is preparing for advanced work in psychology. All students are encouraged to plan undergraduate work carefully. Early and frequent consultation with an advisor is helpful in selecting courses which will provide a solid foundation in psychology and a good general education.

Honors in Psychology

The Department of Psychology recognizes exceptional undergraduate students by awarding them Departmental Honors in Psychology. To graduate with departmental honors, the student must be a declared Psychology major and meet the following requirements:

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4. Take PSY A420 Conducting Research in Psychology.
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6. Students intending to graduate with departmental honors must notify the Departmental Honors Committee in writing on or before the date they file their Application for Graduation with the Office of the Registrar.

Honors Student Learning Outcomes

Students graduating with Departmental Honors in Psychology will possess:

1. An advanced understanding and application of descriptive and inferential statistics and use of statistical software in data analysis.
2. A broad knowledge of psychology’s historical foundation.
3. The ability to conduct a critical review and analysis of existing psychological literature.
4. The ability to design and execute empirical research that tests clearly stated hypotheses or addresses clearly articulated research questions.
5. A clear understanding of research ethics and the responsible conduct of research in the field of psychology.
6. The ability to communicate effectively in writing, in poster format, and in oral presentations, including mastery of APA style.
7. The ability to draw conclusions from research findings, including recognition of the limitations, applications, and implications of the data, and a discussion of alternative explanations of the results.

Occupational Endorsement Certificate, Community Mental-Health Services

Students can earn on their transcript an Occupational Endorsement Certificate in Community Mental-Health Services. This transcripted certificate is available to any student – not just Psychology majors – who receive grades of C or higher in the following courses designed to provide some of the knowledge and skills appropriate for a variety of entry-level jobs in community mental-health settings. Taken together, the courses (and their prerequisites) introduce students to mental-health problems, communication skills, consumer empowerment, assessment, professional networking, service facilitation, behavior change processes, advocacy,
crisis intervention, organizational settings, documentation, ethics, and professional behavior. Mental health problems common to Alaska receive special emphasis. Two semesters of community placement allow skills to be practiced in mental health settings.

**Occupational Endorsement Certificate Requirements**

**Admission**
Complete the admission requirements for Occupational Endorsement Certificates found in Chapter 7.

**Graduation Requirements**

1. Satisfy General University Requirements for Occupational Endorsement Certificates found in the beginning of this chapter.
2. Complete each of the following courses with a grade of C or higher (12 credits)
   - PSY A372 Community Psychology* 3
   - PSY A427 Field Experience in Psychology 3
   - PSY A445 Strategies of Behavior Change 3
   - PSY A455 Mental Health Services in Alaska** 3

   * Prerequisite: PSY A111 (General Psychology)

   ** Prerequisite: PSY A345 (Abnormal Psychology)

1. In addition to the prerequisite courses, a total of 15 credits is required for the Occupational Endorsement Certificate in Community Mental-Health Services.

**Bachelor of Arts, Psychology**

**Bachelor of Science, Psychology**

**Concentration in Behavior Analysis**

The Psychology Department offers an optional transcripted concentration in Behavior Analysis. This concentration provides foundational knowledge and professional skills to apply the science of behavior analysis across a range of settings and client populations, including staff in the workplace, children and adults with intellectual and cognitive disabilities, and individuals with autism spectrum disorder. Completing the coursework below, in addition to required supervised practicum experience with a Board Certified Behavior Analyst®, helps prepare students to apply for the Behavior Analysis Certification Board® examination for becoming a Board Certified Assistant Behavior Analyst®.

Concentration in Behavior Analysis (15 credits):

- PSY A200 Introduction to Behavior Analysis 3
- PSY A400 Strategies of Behavior Change 3
- PSY A495A Applied Behavior Analysis Practicum and Professional Issues 3

**Behavior Analysis Concentration Electives (6 Credits Minimum)**

- PSY A455 Interventions for Challenging Behavior (3)
- PSY A474 Behavioral Treatment of Autism Spectrum Disorder (3)
- PSY A476 Organizational Behavior Management (3)
- PSY A478 Advanced Applications of Behavior Analysis (3)
**Program Student Learning Outcomes**

Students graduating with a Bachelor of Science in Psychology or a Bachelor of Arts in Psychology will:

- Possess a broad knowledge of contemporary psychology.
- Have experience conducting psychological research.
- Be able to demonstrate skills in research design and data analysis.
- Be prepared for advanced study in psychology and related disciplines.

**Admission Requirements**

Complete the admission to Baccalaureate Programs Requirements in Chapter 7. In addition, students wishing to declare Psychology as a major must have earned a minimum GPA of 2.5.

**Academic Progress**

All prerequisites for required Psychology courses must be completed with a grade of C or better. Students who audit, or are unable to earn a grade of C or better in, a lower-division (100 or 200 level) course in the Department of Psychology (PSY) may repeat the course two additional times on a space available basis. Students who audit, or wish to repeat an upper-division (300 or 400 level) course in the Psychology Department may repeat the course one additional time on a space available basis. Students repeating a course are required to complete all components of that course during the semester in which the course is retaken. When repeating a course with a lecture and laboratory component, both components must be repeated.

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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 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 this chapter.

**D. Major Requirements**

1. Psychology Core Requirements (27 Credits)
   
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2. Psychology Capstone Requirement (3 Credits)

A capstone course is required of all Psychology majors (BA or BS). Each capstone option is designed to synthesize and apply material from the Psychology major. Choice of a capstone should be based, at least in part, on the student’s future career plans. Students planning to work in human service jobs following their baccalaureate degree should consider taking PSY A427.
Students planning on graduate work in Psychology should consider taking PSY A412, PSY A420 or PSY A499. Students may elect to take all of these courses as upper division electives.

PSY A412 Foundations of Modern Psychology (3)

or

PSY A420 Conducting Research in Psychology (3)

or

PSY A427 Field Experience in Psychology (3)

or

PSY A428 Evolutionary Psychology (3)

or

PSY A495A Applied Behavior Analysis Practicum and Professional Issues (3)

or

PSY A499 Senior Thesis (3)

Note: All of the above psychology capstone courses have rigorous prerequisites, including grades of C or higher in six credits of English composition, and grades of C or higher in PSY A111, PSY A150, PSY A260, PSY A260L, and PSY A261. Although Ds are passing grades for capstone prerequisites, Cs or higher in these prerequisites are required for admission into psychology's capstone courses. Additional prerequisites may apply to each capstone course. See course descriptions of each capstone course for more details.

3. Psychology Electives (12 Credits)
   Take an additional 12 credits of Psychology, 9 of which must be upper division.

4. Psychology Exit Examination
   All Psychology majors are required to take the exit examination, a standardized test of knowledge of psychology approved by the Psychology Department. There is no minimum score required for graduation. This exam is taken in the Advising and Testing Center and a fee will be charged to students.

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

**Minor, Psychology**

Students majoring in another subject who wish to minor in Psychology must complete a total of 18 credits of Psychology, of which 6 must be upper division.

Requirements include the following:

1. PSY A111 General Psychology
2. Three additional courses required in the core above (see list D.1).
3. Two additional Psychology courses

**FACULTY**

Robert Boeckmann, Associate Professor, rjboeckmann@uaa.alaska.edu
Rebecca Bosek, Term Assistant Professor, rbosek@uaa.alaska.edu
Christiane Brems, Professor, cbrems@uaa.alaska.edu
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Students planning on graduate work in Psychology should consider taking PSY A412, PSY A420 or PSY A499. Students may elect to take all of these courses as upper division electives.

PSY A412     Foundations of Modern Psychology (3)

or

PSY A420     Conducting Research in Psychology (3)

or

PSY A427     Field Experience in Psychology (3)

or

PSY A428     Evolutionary Psychology (3)

or

PSY A495A     Applied Behavior Analysis Practicum and Professional Issues (3)

or

PSY A499     Senior Thesis (3)

Note: All of the above psychology capstone courses have rigorous prerequisites, including grades of C or higher in six credits of English composition, and grades of C or higher in PSY A111, PSY A150, PSY A260, PSY A260L, and PSY A261. Although Ds are passing grades for capstone prerequisites, Cs or higher in these prerequisites are required for admission into psychology’s capstone courses. Additional prerequisites may apply to each capstone course. See course descriptions of each capstone course for more details.

3. Psychology Electives (12 Credits)

Take an additional 12 credits of Psychology, 9 of which must be upper division.

4. Psychology Exit Examination

All Psychology majors are required to take the exit examination, a standardized test of knowledge of psychology approved by the Psychology Department. There is no minimum score required for graduation. This exam is taken in the Advising and Testing Center and a fee will be charged to students.

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

Minor, Psychology

Students majoring in another subject who wish to minor in Psychology must complete a total of 18 credits of Psychology, of which 6 must be upper division.

Requirements include the following:

1. PSY A111 General Psychology
2. Three additional courses required in the core above (see list D.1).
3. Two additional Psychology courses

FACULTY

Robert Boeckmann, Associate Professor, rboeckmann@uaa.alaska.edu
Rebecca Bosek, Term Assistant Professor, rbosek@uaa.alaska.edu
Christiane Brems, Professor, cbrems@uaa.alaska.edu
Eric John David, Assistant Professor, edavid8@uaa.alaska.edu
Patrick Dulin, Assistant Professor, afpld@uaa.alaska.edu
Gloria Eldridge, Associate Professor/CTC Coordinator, geddridge@uaa.alaska.edu
Jim Fitterling, PhD Program Director/Assistant Professor, jfitterling@uaa.alaska.edu
Karen Gibson, Term Instructor, kgibson3@uaa.alaska.edu
Vivian Gonzalez, Assistant Professor, vmgonzalez@uaa.alaska.edu
Maria Ippolito, Associate Professor, mippolito@uaa.alaska.edu
Mark Johnson, Professor, mejohnson@uaa.alaska.edu
Phil Jordan, Term Instructor, pajordan@uaa.alaska.edu
Bruno Kappes, Professor, bmkappes@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>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>Physics and Astronomy</td>
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</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>
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<tbody>
<tr>
<td>PHYS</td>
<td>A381</td>
<td>N/A</td>
<td>3</td>
<td>(Lecture + Lab) (0+6)</td>
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### 6. Complete Course Title

- **Advanced Physics Laboratory**
- **Advanced Physics Lab**

*Abbreviated Title for Transcript (30 character)*

<table>
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<tr>
<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></td>
<td>or</td>
<td>Max Credits</td>
<td>P/NP</td>
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<td>or</td>
<td></td>
<td>NG</td>
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<thead>
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<tr>
<td>From: Fall/2014</td>
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<tr>
<td>To: /9999</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).

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</tbody>
</table>

**Initiator Name (typed): Nathaniel Hicks**

**Initiator Signed Initials:** _______

**Date:**

<table>
<thead>
<tr>
<th>13b. Coordination Email</th>
<th>13c. Coordination with Library Liaison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submitted to Faculty Listserv: (<a href="mailto:uaa-faculty@lists.uaa.alaska.edu">uaa-faculty@lists.uaa.alaska.edu</a>)</td>
<td>Date: 12/2/13</td>
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<table>
<thead>
<tr>
<th>14. General Education Requirement</th>
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<tr>
<td>Mark appropriate box:</td>
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<tr>
<td>Oral Communication</td>
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<tr>
<td>Written Communication</td>
</tr>
<tr>
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<tr>
<td>Fine Arts</td>
</tr>
<tr>
<td>Social Sciences</td>
</tr>
<tr>
<td>Natural Sciences</td>
</tr>
<tr>
<td>Integrative Capstone</td>
</tr>
</tbody>
</table>

### 15. Course Description

**Theory and practical application of topics in upper division physics to advanced laboratory experiments and techniques. Students will learn rigorous statistical and error analysis of data.**

### 16. Course Prerequisite(s)

- **PHYS A303 with minimum grade of C or concurrent enrollment**

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

**N/A**

### 16c. Other Restriction(s)

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

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

**N/A**

### 19. Justification for Action

**Adding new course: a topic appropriate to different kinds of experimental scientists, which takes advantage of expertise of experimentalists in the department's faculty.**

---

**Initiator (faculty only): Nathaniel Hicks**

**Initiator Signed Initials:** _______

**Date:**

**Dean/Director of School/College:**

**Date:**

**Undergraduate/Graduate Academic Board Chair:**

**Date:**

**Provost or Designee:**

**Date:**
COURSE CONTENT GUIDE

I) Date initiated: 11/20/2013

II) Course Information:
A) College: College of Arts and Sciences
B) Course Title: Advanced Physics Laboratory
C) Course Prefix/Number: PHYS A381
D) Number of credits: 3
E) Contact hours: 0.0 + 6.0 (lecture + lab)
F) Grading Basis: A-F
G) Course Description: Theory and practical application of topics in upper division physics to advanced laboratory experiments and techniques. Students will learn rigorous statistical and error analysis of data.
H) Status of course relative to degree programs: elective for the Physics Minor
I) Fees: yes
J) Coordination: UAA Faculty Listserv
K) Prerequisite: PHYS A303 with minimum grade of C or concurrent enrollment
L) Registration restrictions: none

III) Course level justification:
This is a traditional physics laboratory course to be taken in the junior or senior year. The prerequisites are consistent with the 300 level classification.

IV) Instructional Goals & Student Learning Outcomes
   A) Instructional Goals
      The advanced laboratory is intended to give students an opportunity to study and conduct fundamental experiments in physics; experiments which have helped establish the basic framework of physics theory.
      The instructor will:
      1. Introduce students to the context and significance of the experiments to be performed, and the techniques to be used, and guide students in the planning, setup, and execution of these experiments.
      2. Help the student in their abilities to reason mathematically, and analyze quantitative and qualitative data competently to reach reasonable and sound conclusions.
      3. Provide guidelines for required report format and content.
B) Student Learning Outcomes & Assessment Methods

_The student will..._ | _... as measured by:_
---|---
Understand the connection between theoretical principles and applications to particular experiments. | Lab reports and/or oral presentations
Design, set up, and conduct advanced physics experiments | Lab exercises, reports, and/or observation of students in the lab
Collect and analyze experimental data, including proper treatment of experimental errors. | Lab exercises, reports, and/or observation of students in the lab
Present experimental goals, data, and analysis of the data through effective verbal or written communication. Given the advanced nature of these experiments, all written reports should be patterned after research papers typical of the field. | Lab reports and/or oral presentations

V) Topical course outline:

A set of typical advanced laboratory experiments is listed below; the experiments to be performed may include a subset of these and/or additional experiments at the instructor’s discretion.

1. Millikan Oil Drop experiment
2. Zeeman Effect
3. Franck-Hertz experiment
4. Measurement of Speed of Light
5. Air Drag on Rigid Spheres
6. Muon Lifetime
7. Radioactive Decay
8. Superconductivity
9. Cloud Chamber

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>
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<th>1c. Department</th>
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<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>PHYS</td>
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</table>

6. Complete Course Title

**Quantum Mechanics**

**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
- Grade Basis
- Title
- Contact Hours
- Repeat Status
- Cross-Listed/Stacked
- Course Prerequisites
- Co-requisites
- Registration Restrictions
- General Education Requirement
- Other Restrictions
- Class
- College
- Major
- Level
- Other update CCG (please specify)

9. Repeat Status No

<table>
<thead>
<tr>
<th># of Repeats</th>
<th>Max Credits</th>
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</table>

10. Grading Basis

- A-F
- P/NP
- NG

11. Implementation Date

From: Fa/2014
To: /9999

12. Cross Listed with

[ ] PHYS A603

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>
<td>3.</td>
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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](mailto: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)

Fundamentals of quantum mechanics, including applications to the hydrogen atom, particle spin, and perturbation theory.

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

[ ] PHYS A303 with minimum grade of C or CHEM A332 with minimum grade of C, and MATH A314 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

Adding a stacked version of this course, and increase credits/contact hours to reflect workload and level of rigor necessary to achieve outcomes

Initiator (faculty only)

Katherine Rawlins

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

Date

Date

Date

Date

Date
**Biol/Chem/Phys 403**

13a. Impacted Courses or Programs

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<th>Impacted Programs</th>
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<th>Impact Date</th>
<th>Chair/Coordinator Contacted</th>
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<td>10/15/2013</td>
<td>Chem Chair, Holmberg</td>
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<tr>
<td>Natural Sciences, BS</td>
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<td><strong>Natural Science Chairs:</strong></td>
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<td></td>
<td>Bio Director, Rainey</td>
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<td></td>
<td>10/15/2013</td>
<td>Geo Chair, Crossen</td>
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<td>10/15/2013</td>
<td>Physics Chair, Pantaleone</td>
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<td>CHEM 333L</td>
<td>390</td>
<td>10/15/2013</td>
<td>Chem Chair, Holmberg</td>
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University of Alaska Anchorage
Course Content Guide
PHYS 403 Quantum Mechanics

I. Date of Initiation
   November 20, 2013

II. Course Information
   A. College: CAS
   B. Department: Physics & Astronomy
   C. Course Subject: PHYS
   D. Course Number A403
   E. Number of Credits/CEU 4.0
   F. Number of Contact Hours 4+0
   G. Course Title Quantum Mechanics
   H. Grading Basis: A-F
   I. Course Description: Fundamentals of quantum mechanics, including
      applications to the hydrogen atom, particle spin, and perturbation theory.
   J. Course Prerequisite: [PHYS A303 with minimum grade of C or
      CHEM A332 with minimum grade of C], and
      MATH A314 with minimum grade of C
   K. Implementation Date: Fall 2014
   L. Stacked with: PHYS A603

III. Course Activities
   Standard lecture class. Mainly lectures by instructor

IV. Evaluation
   Evaluation will be at the option of the instructor, but can include
   regular homework, quizzes, and in-class exams.

V. Course Level Justification
   This course builds upon the principles of classical physics, and requires
   advanced mathematical skills.

VI. Outline
   A. Linear algebra and classical physics review
      1. Inner products
      2. Unitary and Hermitian matrices
      3. Eigenvalues and eigenvectors
      4. Hamiltonians
   B. The Schrodinger Equation
      1. Free particle
      2. Particle in a box
   C. The harmonic oscillator
      1. Raising/lowering operators
D. Rotation in three dimensions
   1. Angular momentum
   2. Spherical harmonics
   3. The hydrogen atom

E. Identical particles
   1. Spin
   2. Fermions and bosons

F. Approximation methods
   1. WKB method
   2. Time-independent perturbation theory

VII. Instructional Goals and Student Learning Outcomes
A. Instructional Goals: The instructor will:
   1. The Schrodinger Equation and how to solve it for several example systems, such as a
      particle in a box, harmonic oscillator, and the hydrogen atom.
   2. The nature of particle spin, and how it relates to degeneracy of identical particles.
   3. How to derive approximate solutions to quantum mechanical problems using perturbation
      methods.

B. Student Learning Outcomes.

The student will demonstrate:          Assessment Procedures
The ability to use linear algebra to solve eigenvector/eigenvalue
problems in quantum mechanics.          Objective tests
Mastery of use of the Schrodinger equation and how to solve it for
problems such as a particle in a box, the harmonic oscillator, and the
hydrogen atom.                          Objective tests
Full comprehension of the concept of spin angular momentum, and how it relates to identical particles. Objective tests

VIII. Suggested Texts (at option of instructor)

IX. Bibliography and Resources
The Feynman Lectures on Physics Vol. 1-3, R. P. Feynman, R.B. Leighton, and M. Sands,
Addison Wesley (1977, and other special editions and boxed sets 1989 and 2011).
### Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

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
A603

4. Previous Course Prefix & Number
N/A

5a. Credits/CEUs
4

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

6. Complete Course Title
Advanced Quantum Mechanics

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

12. Cross Listed with
☒ Stacked with PHYS A403

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.
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<td>3.</td>
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Initiator Name (typed): Katherine Rawlings. Initiator Signed Initials: _______ Date: __________

13b. Coordination Email
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submitted to Faculty Listserv: [uaa-faculty@lists.uaa.alaska.edu](mailto: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)
Fundamentals of quantum mechanics, including applications to the hydrogen atom, particle spin, and perturbation theory.

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)

16d. Registration Restriction(s) (non-codable)
Graduate standing, and approval of faculty advisor

17. Mark if course has fees

18. Mark if course is a selected topic course

19. Justification for Action
Adding a stacked version of this course, so as to be available for Interdisciplinary Masters students

Initiator (faculty only)
Katherine Rawlings

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
University of Alaska Anchorage
Course Content Guide
PHYS 603 Advanced Quantum Mechanics

I. Date of Initiation
   November 20, 2013

II. Course Information
   A. College: CAS
   B. Department: Physics & Astronomy
   C. Course Subject: PHYS
   D. Course Number: A403
   E. Number of Credits/CEU: 4.0
   F. Number of Contact Hours: 4+0
   G. Course Title: Advanced Quantum Mechanics
   H. Grading Basis: A-F
   I. Course Description:
      Fundamentals of quantum mechanics, including applications to the hydrogen atom, particle spin, and perturbation theory.
   J. Course Prerequisite: [PHYS A303 with minimum grade of C or CHEM A332 with minimum grade of C], and MATH A314 with minimum grade of C
   K. Implementation Date: Fall 2014
   L. Stacked with: PHYS A403
   M. Registration Restrictions: Graduate standing, and approval of faculty advisor

III. Course Activities
    Standard lecture class. Mainly lectures by instructor

IV. Evaluation
    Evaluation will be at the option of the instructor, but can include regular homework, quizzes, and in-class exams. Graduate students in this class will also complete oral or written presentations going into additional depth or on additional topics.

V. Course Level Justification
    This course builds upon the principles of classical physics (which should be familiar to graduate students), and requires advanced mathematical skills.

VI. Outline
   A. Linear algebra and classical physics review
      1. Inner products
      2. Unitary and Hermitian matrices
      3. Eigenvalues and eigenvectors
      4. Hamiltonians
   B. The Schrodinger Equation
      1. Free particle
      2. Particle in a box
C. The harmonic oscillator
   1. Raising/lowering operators

D. Rotation in three dimensions
   1. Angular momentum
   2. Spherical harmonics
   3. The hydrogen atom

E. Identical particles
   1. Spin
   2. Fermions and bosons

F. Approximation methods
   1. WKB method
   2. Time-independent perturbation theory

VII. Instructional Goals and Student Learning Outcomes

A. Instructional Goals: The instructor will:
   1. The Schrodinger Equation and how to solve it for several example systems, such as a particle in a box, harmonic oscillator, and the hydrogen atom.
   2. The nature of particle spin, and how it relates to degeneracy of identical particles.
   3. How to derive approximate solutions to quantum mechanical problems using perturbation methods.

B. Student Learning Outcomes.

The student will demonstrate:

<table>
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<tr>
<th>Problem</th>
<th>Assessment Procedures</th>
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<td>The ability to use linear algebra to solve eigenvector/eigenvalue problems in quantum mechanics.</td>
<td>Objective tests</td>
</tr>
<tr>
<td>Mastery of use of the Schrodinger equation and how to solve it for problems such as a particle in a box, the harmonic oscillator, and the hydrogen atom.</td>
<td>Objective tests</td>
</tr>
<tr>
<td>Full comprehension of the concept of spin angular momentum, and how it relates to identical particles.</td>
<td>Objective tests</td>
</tr>
<tr>
<td>Demonstrate familiarity with current work in the field represented by journals and other current literature, and/or carry out a research project</td>
<td>Oral or written presentations</td>
</tr>
</tbody>
</table>

VIII Suggested Texts (at option of instructor)


IX. Bibliography and Resources

The Feynman Lectures on Physics Vol. 1-3, R. P. Feynman, R.B. Leighton, and M. Sands,
Addison Wesley (1977, and other special editions and boxed sets 1989 and 2011).
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 A413

4. Previous Course Prefix & Number N/A

5a. Credits/CEUs 4

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

6. Complete Course Title

Statistical and Thermal Physics

Statistical & Thermal Physics

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

☐ Title ☐ Repeat Status

☐ Grading Basis ☐ Cross-Listed/Stacked

☐ Course Description ☐ Course Prerequisites

☐ Test Score Prerequisites ☐ Co-requisites

☐ Other Restrictions ☐ Registration 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 semester/year

From: Fall 2014 To: Spring 2015

12. ☐ Cross Listed with PHYS A613

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.uga.edu/governance.

<table>
<thead>
<tr>
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<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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<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.uga.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)

Principles of statistical mechanics and thermodynamics, with applications.

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

PHYS A212 with minimum grade of C or CHEM A331 with minimum grade of C

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

N/A

16c. Other Restriction(s)

☐ College ☐ Major ☐ Class ☐ Level

N/A

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

Adding a stacked version of this course, and increase credits/contact hours to reflect workload and level of rigor necessary to achieve outcomes, minor change in title

Initiator (faculty only) Katherine Rawlins Date

Initiator (TYPE NAME):

☐ Approved ☐ Disapproved

Dean/Director of School/College Date

Undergraduate/Graduate Academic Board Chair Date

Provost or Designee Date
### Impacted Courses or Programs

<table>
<thead>
<tr>
<th>Impacted Programs</th>
<th>Catalog Page(s)</th>
<th>Impacted Date of Coord.</th>
<th>Chair/Coordinator Contacted</th>
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<td>104</td>
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<td>Chem Chair, Holmberg</td>
</tr>
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<td>129</td>
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<td></td>
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<td></td>
<td>Bio Director, Rainey</td>
</tr>
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<td></td>
<td>10/15/2013</td>
<td>Geo Chair, Crossen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10/15/2013</td>
<td>Chem Chair, Holmberg</td>
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<tr>
<td></td>
<td></td>
<td>10/15/2013</td>
<td>Physics Chair, Pantaleone</td>
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<th>Chair/Coordinator Contacted</th>
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<td>390</td>
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I. Date of Initiation: November 20, 2013

II. Course Information
A. College: CAS
B. Department: Physics and Astronomy
C. Course Subject: PHYS
D. Course Number: A413
E. Number of Credits/CEU: 4.0
F. Number of Contact Hours: 4+0
G. Course Title: Statistical and Thermal Physics
H. Course Description: Principles of statistical mechanics and thermodynamics, with applications.
I. Course Prerequisite: PHYS A212 with minimum grade of C or CHEM A331 with minimum grade of C
J. Implementation Date: Fall 2014
K. Stacked with: PHYS A613

III. Instructional Goals and Student Learning Outcomes

1. Instructional Goals

The goal of statistical mechanics is to predict the macroscopic properties of bodies, most especially their thermodynamics properties, on the basis of their microscopic properties. Today the ideas and methods of this field are being applied to complexity, biology and information theory. In this class the instructor will present:

1. The laws of thermodynamics and simple applications.
2. The ensemble approach to statistical mechanics.
3. How to use the machinery of statistical mechanics to solve general problems in this area.

2. Student Learning Outcomes.

Students will come to understand the fundamentals of statistical mechanics.

Upon completion of this course,

<table>
<thead>
<tr>
<th>students will be able to:</th>
<th>assessed according to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>apply the laws of thermodynamics to simple systems.</td>
<td>weekly homework assignments, midterm and final exams</td>
</tr>
<tr>
<td>choose the appropriate ensembles for</td>
<td>weekly homework assignments, midterm and final exams</td>
</tr>
</tbody>
</table>
different systems.
solve standard statistical mechanics problems.

final exams
weekly homework assignments, midterm and final exams

IV. Topical Course Outline

1. What is statistical mechanics?
2. Random walks and emergent properties
3. Temperature and equilibrium
4. Phase-space dynamics and ergodicity
5. Entropy
6. Free energies
7. Quantum statistical mechanics
8. Order parameters, broken symmetry and topology
9. Correlations, response, and dissipation
10. Abrupt phase transitions
11. Continuous phase transitions

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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<tbody>
<tr>
<td>AS CAS</td>
<td>AMSC Division of Math Science</td>
<td>Physics and Astronomy</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 (Lecture + Lab)</th>
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**6. Complete Course Title**  
Advanced Statistical and Thermal Physics  
Adv Statistical & Therm Phys

**Abbreviated Title for Transcript (30 character)**  
Adv Statistical & Therm Phys

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<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>
<th>10. Grading Basis</th>
<th>11. Implementation Date</th>
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<td>A-F</td>
<td>Semester/year</td>
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<tr>
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<th>13a. Impacted Courses or Programs:</th>
<th>13b. Coordination Email</th>
<th>13c. Coordination with Library Liaison</th>
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<tr>
<td>PHYS A413</td>
<td>List any programs or college requirements that require this course.</td>
<td>Date: 11/26/13 submitted to Faculty Listserv: (<a href="mailto:uaa-faculty@lists.uaa.alaska.edu">uaa-faculty@lists.uaa.alaska.edu</a>)</td>
<td>Date: 12/2/13</td>
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</tbody>
</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)**  
Principles of statistical mechanics and thermodynamics, with applications.

**16a. Course Prerequisite(s) (list prefix and number or test code and score)**  
PHYS A212 with minimum grade of C or CHEM A331 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)**  
Graduate standing, and approval of faculty advisor

**17. Mark if course has fees**

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

**19. Justification for Action**  
Adding a stacked version of this course, so as to be available for Interdisciplinary Masters students

**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)**

**14. General Education Requirement**

**15. Course Description**

Principles of statistical mechanics and thermodynamics, with applications.

**16a. Course Prerequisite(s)**  
PHYS A212 with minimum grade of C or CHEM A331 with minimum grade of C

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

N/A

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

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

Graduate standing, and approval of faculty advisor

**17. Mark if course has fees**

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

**19. Justification for Action**

Adding a stacked version of this course, so as to be available for Interdisciplinary Masters students

**Initiator (faculty only) Katherine Rawlins**

Initiator (TYPE NAME)

[ ] Approved
[ ] Disapproved

**Dean/Director of School/College Date**

**Department Chair Date**

**Undergraduate/Graduate Academic Board Chair Date**

**Provost or Designee Date**
I. Date of Initiation: November 20, 2013

II. Course Information
   A. College: CAS
   Department: Physics and Astronomy
   B. Course Subject: PHYS
   C. Course Number: A613
   D. Number of Credits/CEU: 4.0
   E. Number of Contact Hours: 4+0
   F. Course Title: Advanced Statistical and Thermal Physics
   G. Grading Basis: A-F
   H. Course Description: Principles of statistical mechanics and thermodynamics, with applications.
   I. Course Prerequisite: PHYS A212 with minimum grade of C or CHEM A331 with minimum grade of C
   J. Implementation Date: Fall 2014
   K. Stacked with: PHYS A413
   L. Registration restrictions: Graduate standing, and approval of faculty advisor

III. Instructional Goals and Student Learning Outcomes

   1. Instructional Goals

   The goal of statistical mechanics is to predict the macroscopic properties of bodies, most especially their thermodynamics properties, on the basis of their microscopic properties. Today the ideas and methods of this field are being applied to complexity, biology and information theory. In this class the instructor will present:

   1. The laws of thermodynamics and simple applications.
   2. The ensemble approach to statistical mechanics.
   3. How use the machinery of statistical mechanics to solve general problems in this area.

   2. Student Learning Outcomes.

   Students will come to understand the fundamentals of statistical mechanics.
Upon completion of this course, students will be able to:

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>apply the laws of thermodynamics to simple systems.</td>
<td>weekly homework assignments, midterm and final exams</td>
</tr>
<tr>
<td>choose the appropriate ensembles for different systems.</td>
<td>weekly homework assignments, midterm and final exams</td>
</tr>
<tr>
<td>solve standard statistical mechanics problems.</td>
<td>weekly homework assignments, midterm and final exams</td>
</tr>
<tr>
<td>demonstrate familiarity with current work in the field represented by journals and other current literature, and/or carry out a research project</td>
<td>oral or written presentations</td>
</tr>
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</table>

IV. Topical Course Outline

1. What is statistical mechanics?
2. Random walks and emergent properties
3. Temperature and equilibrium
4. Phase-space dynamics and ergodicity
5. Entropy
6. Free energies
7. Quantum statistical mechanics
8. Order parameters, broken symmetry and topology
9. Correlations, response, and dissipation
10. Abrupt phase transitions
11. Continuous phase transitions

V. Suggested Text


VI. 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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<th>1c. Department</th>
</tr>
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<tbody>
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<td>AMSC Division of Math Science</td>
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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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<tr>
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<tr>
<td>Nonlinear Dynamics and Chaos</td>
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<tbody>
<tr>
<td>List any programs or college requirements that require this course.</td>
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<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>
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<td>Quantitative Skills</td>
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<th>15. Course Description (suggested length 20 to 50 words)</th>
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<tr>
<td>An introduction to nonlinear dynamics and chaos. Concrete examples from physics, biology, chemistry, and engineering are used to develop analytical methods and geometric intuition. Topics covered include phase plane analysis, iterated maps, fractals, and strange attractors.</td>
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<th>16a. Course Prerequisite(s) (list prefix and number or test code and score)</th>
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<tbody>
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<td>MATH A202 with minimum grade of C and (PHYS A124 with minimum grade of C or PHYS A212 with minimum grade of C)</td>
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<th>16b. Co-requisite(s) (concurrent enrollment required)</th>
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<th>16c. Other Restriction(s)</th>
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<td>College</td>
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<td>Level</td>
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<th>16d. Registration Restriction(s) (non-codable)</th>
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<tr>
<th>19. Justification for Action</th>
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<tr>
<td>Add a stacked version of this course, and update CCG.</td>
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<th>Date</th>
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<tbody>
<tr>
<td>Katherine Rawlins</td>
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<tr>
<th>Provost or Designee</th>
<th>Date</th>
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---
## BIOL/CHEM/PHYS 456

13a. Impacted Courses or Programs

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<th>Impacted Programs</th>
<th>Catalog Page(s) Impacted</th>
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<th>Chair/Coordinator Contacted</th>
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<td>101</td>
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<td>Chemistry, BS</td>
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<td>Natural Sciences, BS</td>
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**Natural Science Chairs:**

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<td>11/22/2013</td>
<td>Geo Chair, Crossen</td>
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<td>11/22/2013</td>
<td>Chem Chair, Holmberg</td>
</tr>
<tr>
<td></td>
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<td>Physics Chair, Pantaleone</td>
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**Impacted Courses**

none
## Course Action Request

### University of Alaska Anchorage

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

<table>
<thead>
<tr>
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<td>AMSC Division of Math Science</td>
<td>Biological Sciences</td>
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<thead>
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<th>5a. Credits/CEUs</th>
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<tr>
<th>5b. Contact Hours (Lecture + Lab)</th>
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### Complete Course Title

Nonlinear Dynamics and Chaos

### Abbreviated Title for Transcript (30 character)

### 2. Course Prefix

BIOL

### 3. Course Number

A456

### 4. Previous Course Prefix & Number

N/A

### 5a. Credits/CEUs

3

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

(3+0)

### 6. Complete Course Title

Nonlinear Dynamics and Chaos

### 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 Description
- □ Course Prerequisites
- □ Test Score Prerequisites
- □ Co-requisites
- □ Other Restrictions
  - □ Class
  - □ Level
  - □ College
  - □ Major
- □ Other Update CCG (please specify)

### 9. Repeat Status

No

### 10. # of Repeats

Max Credits

### 11. Grading Basis

- □ A-F
- □ P/NP
- □ NG

### 12. Implementation Date

From: Fall 2014

To: 9999

### 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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<td></td>
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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](mailto: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)

An introduction to nonlinear dynamics and chaos. Concrete examples from physics, biology, chemistry, and engineering are used to develop analytical methods and geometric intuition. Topics covered include phase plane analysis, iterated maps, fractals, and strange attractors.

### 16a. Course Prerequisite(s)

(list prefix and number or test code and score)

MATH A202 with minimum grade of C and [PHYS A124 with minimum grade of C or PHYS A212 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)

Completion of GER Tier 1 (basic college-level skills) courses and junior standing

### 17. Mark if course has fees

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

### 19. Justification for Action

Add a stacked version of this course, and update CCG.

---

Initiator (faculty only)

Katherine Rawlins

Initiator Signature: ____________________________ 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
**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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6. Complete Course Title

**Nonlinear Dynamics and Chaos**

Abbreviated Title for Transcript (30 character)

7. Type of Course

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<th>Preparatory/Development</th>
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<th>Professional Development</th>
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8. Type of Action:

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<th>Delete</th>
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If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Other Restrictions
- Other Update CCG (please specify)
- Course Number
- Contact Hours
- Repeat Status
- Cross-Listed/Stacked
- Course Prerequisites
- Co-requisites
- Registration Restrictions
- General Education Requirement

9. Repeat Status No

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11. Implementation Date

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From: Fa/2014  
To: /9999

12. Cross Listed with

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</table>

Stacked with

<table>
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<tr>
<th>BIOL/CHEM/PHYS A656</th>
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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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</table>

Initiator Name (typed): Katherine Rawlins

Initiator Signed Initials: _________

Date:________________

13b. Coordination Email

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

Date: 11/26/13

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)

An introduction to nonlinear dynamics and chaos. Concrete examples from physics, biology, chemistry, and engineering are used to develop analytical methods and geometric intuition. Topics covered include phase plane analysis, iterated maps, fractals, and strange attractors.

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

MATH A202 with minimum grade of C and [PHYS A124 with minimum grade of C or PHYS A212 with minimum grade of C]

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

N/A

16c. Other Restriction(s)

<table>
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<th>College</th>
<th>Major</th>
<th>Class</th>
<th>Level</th>
</tr>
</thead>
</table>

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

Completion of GER Tier 1 (basic college-level skills) courses and junior standing

17. Mark if course has fees

18. Mark if course is a selected topic course

19. Justification for Action

Add a stacked version of this course, and update CCG.

Initiator (faculty only): Katherine Rawlins

Initiator (TYPE NAME): 

Initiator Signed Initials: _________

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:

228
University of Alaska Anchorage  
Course Content Guide  
BIOL/CHEM/PHYS A456 Nonlinear Dynamics and Chaos

I. Date of Initiation: November 20, 2013

II. Course Information  
A. College: CAS  
Departments: Biology, Chemistry, and Physics/Astronomy  
B. Course Subject: BIOL/CHEM/PHYS  
C. Course Number: A456  
D. Number of Credits/CEU: 3.0  
E. Number of Contact Hours: 3+0  
F. Course Title: Nonlinear Dynamics and Chaos  
G. Grading Basis: A-F  
H. Course Description:  
An introduction to nonlinear dynamics and chaos. Concrete examples from physics, biology, chemistry and engineering are used to develop analytical methods and geometric intuition. Topics covered include phase plane analysis, iterated maps, fractals and strange attractors.

I. Course Prerequisite:  
MATH A202 with minimum grade of C and [PHYS A124 with minimum grade of C or PHYS A212 with minimum grade of C]

J. Registration Restrictions:  
Completion of GER Tier 1 (basic college-level skills) courses and junior standing.

K. Course Attributes: UAA GER Integrative Capstone  
L. Implementation Date: Fall 2014  
M. Stacked with: BIOL/CHEM/PHYS A656  
N. Fees: Yes

III. Instructional Goals and Student Learning Outcomes

1. Instructional Goals

The topics usually discussed in science and engineering classes are linear systems, however most real world problems are nonlinear. The analysis of nonlinear dynamical systems is presently one of the most active areas of research. In large part this is because the ongoing improvements in computer power constantly open up new areas where computer analysis may be applied.

The instructor will present:  
1. Models of nonlinear systems in a wide range of fields: physics, biology, chemistry, engineering, and economics.
2. Techniques for analyzing these models; especially graphical and numerical methods.

2. **Student Learning Outcomes & Assessment Methods**

<table>
<thead>
<tr>
<th>The student will…</th>
<th>… as measured by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create mathematical models of complex dynamical systems.</td>
<td>Homework, tests, and take-home projects</td>
</tr>
<tr>
<td>Determine the long term behavior of nonlinear dynamical models.</td>
<td>Homework, tests, and take-home projects</td>
</tr>
<tr>
<td>Use computers to find the attractors in physical data from actual nonlinear systems.</td>
<td>Homework, tests, and take-home projects</td>
</tr>
</tbody>
</table>

IV. **Guidelines for Evaluation**

Course grade is A-F. The grade will be based on how well the student masters the subject material. This will be evaluated through weekly homework assignments, lab reports, midterm and final exams.

V. **Topical Course Outline**

1. Overview of Dynamical Systems
2. 1-D Flows in Phase Space
   - Bifurcations
     -- Lab Activity: Cooling
3. Flow in a Circular Phase Space
4. 2-D Linear Dynamics
   -- Lab: Damped Oscillations
5. 2-D Nonlinear Dynamics.
   -- Lab: Synchronization
6. Limit Cycles
7. Quasiperiodicity
   -- Lab: Quasiperiodicity
8. Lorenz Equations
9. 1-D Maps
   -- Lab: Diode Circuits
10. Fractals
11. Strange Attractors
    -- Lab: Paper Crumpling
12. Pattern Formation

VI. **Suggested Text**


**VII. Bibliography**


**Course Action Request**

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

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  
A490

4. Previous Course Prefix & Number  
N/A

5a. Credits/CEUs  
1-4

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

6. Complete Course Title  
Special Topics in Physics

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  Major
- Other (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:  Fa/2014  
To:  /9999

12. ☐ Cross Listed with  
Stacked with  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>
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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)

Detailed study of a selected topic in physics. Special Note: may be repeated with change of topic.

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

PHYS A303 with minimum grade of C

16b. Co-require(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  
Adding a course, for flexible option to offer specialized topics in response to student demand

Initiator (faculty only)  
Katherine Rawlins

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
I) Date initiated: 11/20/2013

II) Course Information:
   A) College: College of Arts and Sciences
   Department: Physics and Astronomy
   B) Course Title: Special Topics in Physics
   C) Course Prefix/Number: PHYS A490
   D) Number of credits: 1-4
   E) Contact hours: 1.0-4.0 + 0 (lecture + lab)
   F) Grading Basis: A-F
   G) Course Description: Detailed study of a selected topic in physics. Special Note: may be repeated with change of topic.
   H) Status of course relative to degree programs: elective for Physics Minor
   I) Fees: none
   J) Coordination: UAA Faculty Listserv
   K) Prerequisite: PHYS A303 with minimum grade of C
   L) Registration restrictions: none
   M) Stacked with: PHYS A690

III) Course level justification:
   This course will explore a special topic at an advanced level. It requires a 300-level physics course and is intended for upper-division students.

IV) Instructional Goal:
   To introduce students to an advanced topic not generally taught in other course offerings. Examples of such a topic could include for instance:
   - Plasma Physics
   - Astrophysics
   - Acoustics
   - Biophysics
   - Nuclear & Particle Physics

   The general instructional goal is to present the concepts, principles, mathematical underpinnings, and applications of the particular topic. As an example, a course on "Particle Physics" would have as its goals:
   -- Describe interactions of particles with matter, and particle detectors
   -- Introduce the families of particles (such as quarks, leptons, mesons, baryons, and gauge bosons)
   -- Explore nuclear structure and scattering
-- Introduce conservation laws (for baryon number, lepton number, etc.)
-- Expose students to the concepts of isospin, parity, and charge conjugation
-- Study Quantum Electrodynamics (QED), Weak Interactions, and Quantum Chromodynamics (QCD)

V) Student Learning Outcomes & Assessment Methods

**Varying greatly according to topic.** But examples of outcomes for a course on "Particle Physics" as an example would include:

<table>
<thead>
<tr>
<th>The student will...</th>
<th>... as measured by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be familiar with the properties of particles</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>and the categorization of the &quot;particle zoo&quot;</td>
<td></td>
</tr>
<tr>
<td>Be able to describe the mechanisms by which particles</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>interact in matter</td>
<td></td>
</tr>
<tr>
<td>Understand quantum numbers and conservation laws in</td>
<td>Homework and in-class tests</td>
</tr>
<tr>
<td>particle physics</td>
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<tr>
<td>Understand the electromagnetic, weak nuclear, and strong</td>
<td>Homework and in-class tests</td>
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<tr>
<td>nuclear forces</td>
<td></td>
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</tbody>
</table>

VI) Topical course outline:

**Varying according to the topic,** but an example outline for a course on "Particle Physics" might look like:

I. Tools
   1. Accelerators
   2. Passage of radiation through matter
   3. Detectors

II. Particle and Nuclei
   1. The subatomic "zoo"
      1. Fermions and bosons
      2. Leptons
      3. Quarks, mesons, and baryons
      4. Gauge bosons
   2. Atomic structure
      1. Elastic scattering and cross sections
      2. Inelastic scattering
      3. Deep inelastic scattering

III. Conservation Laws
1. How symmetries lead to conservation laws
2. Charge, baryon number, lepton number, and muon number
3. Hypercharge and strangeness
4. Angular momentum and spin
5. Isospin

IV. Interactions
1. Electromagnetism
2. The weak nuclear interaction
3. The electroweak theory
4. Hadronic interactions

VII) Suggested text(s):

Varying according to the topic, but some examples may include:

For Nuclear & Particle Physics:

For Plasma Physics:
F. Chen, "Introduction to plasma physics and controlled fusion", Springer, 1st ed. 1995

VIII) Bibliography:

Varying according to the topic, but some examples may include:

For Plasma Physics:

R. J. Goldston, "Introduction to plasma physics", Taylor & Francis, 1st ed. 1995

**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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If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Other Restrictions
- Class
- Level
- College
- Major

9. Repeat Status Yes: Yes

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<th>10. Grading Basis</th>
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<td>semester/year</td>
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<td>From: Fa/2014 To: /9999</td>
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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.

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Initiator (typed): Katherine Rawlins

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: 12/2/13

**14. General Education Requirement**

Mark appropriate box:

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

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

Detailed study of a selected topic in physics at the graduate level. Special Note: may be repeated with change of topic.

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

PHYS A303 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)**

Graduate standing, and approval of faculty advisor

**17. Mark if course has fees**

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

**19. Justification for Action**

Adding a stacked version of this course, so as to be available for Interdisciplinary Masters students

Initiator (faculty only)

Katherine Rawlins

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 initiated: 11/20/2013

II) Course Information:
   A) College: College of Arts and Sciences
   Department: Physics and Astronomy
   B) Course Title: Advanced Special Topics in Physics
   C) Course Prefix/Number: PHYS A690
   D) Number of credits: 1-4
   E) Contact hours: 1.0-4.0 + 0 (lecture + lab)
   F) Grading Basis: A-F
   G) Course Description: Detailed study of a selected topic in physics at the graduate level. Special Note: may be repeated with change of topic.
   H) Status of course relative to degree programs: not required for any program
   I) Fees: none
   J) Coordination: UAA Faculty Listserv
   K) Prerequisite: PHYS A303 with minimum grade of C
   L) Registration restrictions: Graduate standing, and approval of faculty advisor
   M) Stacked with: PHYS A490

III) Course level justification:
   This course will explore a special topic at a graduate level.

IV) Instructional Goal:
   To introduce students to an advanced topic not generally taught in other course offerings. Examples of such a topic could include for instance:
   - Plasma Physics
   - Astrophysics
   - Acoustics
   - Biophysics
   - Nuclear & Particle Physics

The general instructional goal is to present the concepts, principles, mathematical underpinnings, and applications of the particular topic. As an example, a course on "Particle Physics" would have as its goals:
   -- Describe interactions of particles with matter, and particle detectors
   -- Introduce the families of particles (such as quarks, leptons, mesons, baryons, and gauge bosons)
   -- Explore nuclear structure and scattering
   -- Introduce conservation laws (for baryon number, lepton number, etc.)
-- Expose students to the concepts of isospin, parity, and charge conjugation
-- Study Quantum Electrodynamics (QED), Weak Interactions, and Quantum Chromodynamics (QCD)

V) Student Learning Outcomes & Assessment Methods

Varying greatly according to topic. But examples of outcomes for a course on "Particle Physics" as an example would include:

The student will... ... as measured by:
Be familiar with the properties of particles and the categorization of the "particle zoo" Homework and in-class tests
Be able to describe the mechanisms by which particles interact in matter Homework and in-class tests
Understand quantum numbers and conservation laws in particle physics Homework and in-class tests
Understand the electromagnetic, weak nuclear, and strong nuclear forces Homework and in-class tests
Become familiar with current work in the field through journals and other current literature, and/or carry out a research project Oral or written presentations

VI) Topical course outline:

Varying according to the topic, but an example outline for a course on "Particle Physics" might look like:

I. Tools
   1. Accelerators
   2. Passage of radiation through matter
   3. Detectors
II. Particle and Nuclei
   1. The subatomic "zoo"
      1. Fermions and bosons
      2. Leptons
      3. Quarks, mesons, and baryons
      4. Gauge bosons
   2. Atomic structure
      1. Elastic scattering and cross sections
      2. Inelastic scattering
3. Deep inelastic scattering

III. Conservation Laws
1. How symmetries lead to conservation laws
2. Charge, baryon number, lepton number, and muon number
3. Hypercharge and strangeness
4. Angular momentum and spin
5. Isospin

IV. Interactions
1. Electromagnetism
2. The weak nuclear interaction
3. The electroweak theory
4. Hadronic interactions

VII) Suggested text(s):

**Varying according to the topic**, but some examples may include:

*For Nuclear & Particle Physics:*

*For Plasma Physics:*
F. Chen, "Introduction to plasma physics and controlled fusion", Springer, 1st ed. 1995

VIII) Bibliography:

**Varying according to the topic**, but some examples may include:

*For Plasma Physics:*
R. J. Goldston, "Introduction to plasma physics", Taylor & Francis, 1st ed. 1995
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
- AHLS Division of Health & Safety

### 1c. Department
- Medical Imaging Sciences

### 2. Course Prefix
- DMS

### 3. Course Number
- A102

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

### 5a. Credits/CEUs
- 2.0

### 5b. Contact Hours
- (Lecture + Lab) (2+0)

### 6. Complete Course Title
- Foundations of Sonography

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

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

### 9. Repeat Status No

### 10. Grading Basis
- [x] A-F
- [ ] P/NC
- [ ] 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.uaa.alaska.edu/governance.

#### Impacted Program/Course

<table>
<thead>
<tr>
<th>Course</th>
<th>Date</th>
<th>Chair/Coordinator Contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Diagnostic Medical Sonography</td>
<td>09/29/2013</td>
<td>Ryan Parnell</td>
</tr>
<tr>
<td>2.</td>
<td></td>
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<td>3.</td>
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</table>

#### Initiator Name (typed): RCP

#### Initiator Signed Initials: _______

#### Date: __________

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

#### Date: 01/21/2014

### 13c. Coordination with Library Liaison
- Date: 01/21/2014

### 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 history of ultrasound, its medical application, the sonographer's role, ergonomics, terminology, and approaches to scanning. Includes legal and ethical principles, communication skills, and patient safety.

### 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. Automatic Restriction(s)

#### [ ] College
#### [ ] Major
#### [ ] Class
#### [ ] Level

### 16d. Registration Restriction(s) (non-codable)
- Departmental approval

### 17. Mark if course has fees

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

### 19. Justification for Action
- This course combines topics in DMS A101 and DMS A103, and is meant to be a replacement.

### Initiator (faculty only)
- Ryan Parnell

#### Initiator (TYPE NAME)

<table>
<thead>
<tr>
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</tr>
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<tbody>
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<td>Undergraduate/Graduate Academic</td>
<td>Date</td>
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<tr>
<td>Board Chair</td>
<td>Date</td>
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<td>Provost or Designee</td>
<td>Date</td>
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### Initiator (faculty only)

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<td>Department Chair</td>
<td>Date</td>
</tr>
<tr>
<td>College/School Curriculum Committee Chair</td>
<td>Date</td>
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</table>
I. Date of Initiation

September 2013

II. Curriculum Action Request

A. School
   College of Health
B. Course Subject
   DMS
C. Course Number
   A102
D. Number of Credits
   2.0
E. Contact Hours
   2 + 0
F. Course Title
   Foundations of Sonography
G. Grading Basis
   A-F
H. Implementation Date
   Fall 2014
I. Cross-Listed/Stacked
   N/A
J. Course Description
   Introduces the history of ultrasound, its medical application, the sonographer’s role, ergonomics, terminology, and approaches to scanning. Includes legal and ethical principles, communication skills, and patient safety.

K. Course Prerequisites
   N/A
L. Corequisites
   N/A
M. Other Restrictions
   N/A
N. Registration Restrictions
   Departmental approval
O. Course Fees
   No

III. Instructional Goals and Student Outcomes

A. The instructor will:
   1. Define the foundations of the diagnostic medical sonography profession and the sonographer’s role.
   2. Discuss workplace and sonographer safety.
   3. Describe medical and sonographic terminology.
   4. Provide assignments that allow the students to practice describing the sonographic appearance of normal and abnormal anatomy.
   5. Discuss how to locate anatomy using reference points and anatomical divisions.
   6. Explain sonographic scanning planes and approaches.
   7. Discuss the relationship of anatomical structures in the body and on a sectional image.
   8. Explain the steps and considerations associated with performing a sonographic examination.
   9. Identify legal and ethical principles health care workers need to understand.
   10. Discuss communication methods and challenges associated with providing
11. Describe patient monitoring methods, and measures to ensure patient safety.

B. The student will be able to:

<table>
<thead>
<tr>
<th>Outcomes and Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Outcomes</strong></td>
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<tr>
<td>1. Explain the diagnostic medical sonography profession and the sonographer’s role.</td>
</tr>
<tr>
<td>2. Identify risk factors associated with performing sonographic duties in the workplace, and measures to mitigate risk.</td>
</tr>
<tr>
<td>3. Define basic medical and sonographic terminology.</td>
</tr>
<tr>
<td>4. Describe the sonographic appearance of normal and abnormal anatomy using proper terminology.</td>
</tr>
<tr>
<td>5. Define anatomical landmarks, divisions, and associated anatomy.</td>
</tr>
<tr>
<td>6. Label sonographic images based on scanning plane and approach.</td>
</tr>
<tr>
<td>7. Determine anatomical structures using verbal cues and from sonographic images.</td>
</tr>
<tr>
<td>8. Recall the steps and considerations associated with performing a sonographic examination.</td>
</tr>
<tr>
<td>9. Comprehend legal and ethical principles related to being a health care worker.</td>
</tr>
<tr>
<td>10. Choose appropriate communication methods and recognize communication challenges.</td>
</tr>
<tr>
<td>11. Explain patient monitoring methods and patient safety measures.</td>
</tr>
</tbody>
</table>

IV. **Course Level Justification**

This introductory course discusses sonographic foundations, ergonomics, terminology, scanning techniques, anatomical relationships, and sectional anatomy. It also incorporates ethical and legal concerns, communication, and patient safety related to sonography.

V. **Topical Course Outline**

1.0 General Safety
   1.1 General Campus Safety
1.2 Classroom Safety
1.3 Fire Safety

2.0 Program Rules and Regulations
2.1 Classroom
2.2 Laboratory
2.3 Clinical Practicum

3.0 Foundations
3.1 History of Sonography
3.2 The Sonographer
3.3 Sonography Careers
3.4 Professional Organizations

4.0 Sonographer Safety
4.1 Musculoskeletal Injuries
4.2 Physiology and Symptoms of Work-Related Injury
4.3 Workplace Stress
4.4 Internally Generated Stress

5.0 Terminology
5.1 Medical
5.2 Ultrasound
5.3 Directional

6.0 Sonographic Appearance and Characterization
6.1 Normal Anatomy
6.2 Abnormal Findings

7.0 Location of Anatomy
7.1 Surface Landmarks
7.2 Body Divisions
7.3 Body Planes
7.4 Body Cavities
7.5 Body Positioning

8.0 Ultrasound Scanning
8.1 Sectional Planes
8.2 Scanning Planes
8.3 Sonographic Approach

9.0 Anatomy Layering and Sectional Anatomy
9.1 Structure Orientation
9.2 Body Structure Relationships

10.0 The Scanning Experience
10.1 Clinical Criteria
10.2 Imaging Criteria
10.3 Scanning

11.0 Legal and Ethical Principles
11.1 Patient’s Rights and Privacy
11.2 Ethics
11.3 Legal Considerations
11.4 Confirmation of Information
11.5 Chaperones
12.0 Interpersonal Communication
   12.1 Modes of Communication
   12.2 Challenges in Communication
   12.3 Patient Interview for Clinical History
   12.4 Patient Education
13.0 Patient Monitoring and Safety
   13.1 Routine Monitoring
   13.2 Common Emergencies
   13.3 Patient Transfer
   13.4 Assisting With Medical Equipment

VI. Suggested Texts


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>
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<tbody>
<tr>
<td>CH College of Health</td>
<td>AHLS Division of Health Safety</td>
<td>Medical Imaging Sciences</td>
</tr>
</tbody>
</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>DMS</td>
<td>A211</td>
<td>N/A</td>
<td>1.0</td>
<td>(Lecture + Lab) (1+0)</td>
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### 6. Complete Course Title

**Small Parts Sonography**

### 7. Type of Course

- [ ] 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  
- [ ] Automatic Restrictions  
- [ ] Class  
- [ ] Level  
- [ ] College  
- [ ] Major  
- [ ] Other

### 9. Repeat Status

- [ ] No Repeat
- [ ] # 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

- [ ] N/A

### 13a. Impacted Courses or Programs

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

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<td>09/29/2013</td>
<td>Ryan Parnell</td>
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**Initiator Name (typed): Ryan Parnell**  
**Initiator Signed Initials:** _________

**Date:** ___________

### 13b. Coordination Email

- [ ] Date: 01/21/2014  
- [ ] submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

### 13c. Coordination with Library Liaison

- [ ] Date: 01/21/2014

### 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 anatomy, physiology, and pathologic conditions of superficial structures and small parts. Includes normal sonographic appearance of anatomy, sonographic findings, and scanning protocols.

### 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. Automatic Restriction(s)

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

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

- [ ] Departmental approval

### 17. Mark if course has fees

- [ ]

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

- [ ]

### 19. Justification for Action

Adjustment to credits based on feedback from initial offering.

**Initiator (faculty only): Ryan Parnell**  
**Initiator (TYPE NAME):**

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**Dean/Director of School/College**  
**Date:** ___________

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</table>

**Provost or Designee**  
**Date:** ___________
I. Date of Initiation
   September 2013

II. Curriculum Action Request
   A. School                College of Health
   B. Course Subject       DMS
   C. Course Number        A211
   D. Number of Credits    1.0
   E. Contact Hours        1 + 0
   F. Course Title         Small Parts Sonography
   G. Grading Basis        A-F
   H. Implementation Date  Fall 2014
   I. Cross-Listed/Stacked N/A
   J. Course Description   Introduces the anatomy, physiology, and pathologic conditions of superficial structures and small parts. Includes normal sonographic appearance of anatomy, sonographic findings, and scanning protocols.

K. Course Prerequisites  N/A
L. Corequisites          N/A
M. Other Restrictions    N/A
N. Registration Restrictions Departmental approval
O. Course Fees           No

III. Instructional Goals and Student Outcomes
   A. The instructor will:
      1. Explain the anatomy and physiology of small parts and superficial structures.
      2. Describe the sonographic appearance of small parts and superficial structures.
      3. Define indications for performing small parts sonography.
      4. Review scanning protocols used in small parts sonography.
      5. Explain pathologic conditions of small parts and superficial structures.
      6. Describe the sonographic characteristics of pathological conditions of small parts and superficial structures.
      7. Discuss associated diagnostic tests and laboratory values related to small parts.
   B. The student will be able to:

<table>
<thead>
<tr>
<th>Outcomes and Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Outcomes</strong></td>
</tr>
<tr>
<td>1. List the anatomical structures of small parts and superficial anatomy.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Student Outcomes</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2. Associate anatomical structures of small parts and superficial anatomy with their sonographic appearance.</td>
</tr>
<tr>
<td>3. Recall indications for performing small parts sonography.</td>
</tr>
<tr>
<td>4. Recall small parts sonography scanning protocols.</td>
</tr>
<tr>
<td>5. Describe the pathologic conditions of small parts and superficial structures.</td>
</tr>
<tr>
<td>6. Distinguish pathological conditions of small parts and superficial structures by their sonographic characteristics.</td>
</tr>
<tr>
<td>7. Identify related diagnostic tests and laboratory values for small parts.</td>
</tr>
</tbody>
</table>

IV. Course Level Justification
This intermediate course presents the normal anatomy, pathology, sonographic appearance and findings, clinical applications, scanning techniques, and protocols used in ultrasound imaging of superficial structures and small anatomical parts.

V. Topical Course Outline
1.0 General Safety
   1.1 General Campus Safety
   1.2 Classroom Safety
   1.3 Fire Safety
2.0 Thyroid Gland
   2.1 Location
   2.2 Size
   2.3 Normal Anatomy
   2.4 Physiology
   2.5 Sonographic Appearance
   2.6 Sonographic Applications
   2.7 Normal Variants
   2.8 Common Diagnostic Tests
   2.9 Laboratory Values
   2.10 Scanning Protocol
   2.11 Abnormalities
3.0 Parathyroid Glands
   3.1 Location
   3.2 Size
   3.3 Normal Anatomy
   3.4 Physiology
3.5 Sonographic Appearance
3.6 Sonographic Applications
3.7 Normal Variants
3.8 Common Diagnostic Tests
3.9 Laboratory Values
3.10 Scanning Protocol
3.11 Abnormalities

4.0 Male Reproductive System
4.1 Location
4.2 Size
4.3 Normal Anatomy
4.4 Physiology
4.5 Sonographic Appearance
4.6 Sonographic Applications
4.7 Normal Variants
4.8 Common Diagnostic Tests
4.9 Laboratory Values
4.10 Scanning Protocol
4.11 Abnormalities

5.0 Superficial Structures
5.1 Chest Wall
  5.1.1 Location
  5.1.2 Normal Anatomy
  5.1.3 Sonographic Appearance
  5.1.4 Sonographic Applications
  5.1.5 Scanning Protocol
  5.1.6 Abnormalities
5.2 Musculoskeletal
  5.2.1 Location
  5.2.2 Normal Anatomy
  5.2.3 Sonographic Appearance
  5.2.4 Sonographic Applications
  5.2.5 Scanning Protocol
  5.2.6 Abnormalities

VI. Suggested Texts


**VII. Bibliography**


## 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

AHLS Division of Health Safety

### 1c. Department

Medical Imaging Sciences

### 2. Course Prefix

DMS

### 3. Course Number

A215

### 4. Previous Course Prefix & Number

N/A

### 5a. Credits/CEUs

1.0

### 5b. Contact Hours

(Lecture + Lab) (1+0)

### 6. Complete Course Title

Breast Sonography

### 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:

- [x] Prefix
- [ ] Credits
- [x] Title
- [ ] Grading Basis
- [ ] Course Description
- [ ] Test Score Prerequisites
- [ ] Automatic Restrictions
- [x] Other Update CCG (please specify)

### 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

- [ ] 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.

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<tr>
<td>1. Diagnostic Medical Sonography</td>
<td>09/25/2013</td>
<td>Ryan Parnell</td>
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Initiator Name (typed): **Ryan Parnell**

Initiator Signed Initials: _________ Date: __________

### 13b. Coordination Email

Date: **01/21/2014**

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

### 13c. Coordination with Library Liaison

Date: **01/21/2014**

### 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 anatomy, physiology, and pathologic conditions of breast tissue. Includes normal sonographic appearance of anatomy, sonographic findings, and scanning protocols.

### 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. Automatic Restriction(s)

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

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

Departmental approval

### 17. Mark if course has fees

- [ ] Yes

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

- [ ] Yes

### 19. Justification for Action

Adjustment to credits based on feedback from initial offering.

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<td><strong>Ryan Parnell</strong> (TYPE NAME)</td>
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[ ] Approved
[ ] Disapproved
I. Date of Initiation

September 2013

II. Curriculum Action Request

A. School College of Health
B. Course Subject DMS
C. Course Number A215
D. Number of Credits 1.0
E. Contact Hours 1 + 0
F. Course Title Breast Sonography
G. Grading Basis A-F
H. Implementation Date Fall 2014
I. Cross-Listed/Stacked N/A
J. Course Description Introduces the anatomy, physiology, and pathologic conditions of breast tissue. Includes normal sonographic appearance of anatomy, sonographic findings, and scanning protocols.

K. Course Prerequisites N/A
L. Corequisites N/A
M. Other Restrictions N/A
N. Registration Restrictions Departmental approval
O. Course Fees No

III. Instructional Goals and Student Outcomes

A. The instructor will:

1. Explain the anatomy and physiology of the female and male breast.
2. Describe the sonographic appearance of the female and male breast.
3. Define indications for performing breast sonography.
4. Review scanning protocols used in breast sonography.
5. Explain pathologic conditions of the female and male breast.
6. Describe the sonographic characteristics of pathological conditions of the female and male breast.
7. Describe the sonographic characteristics of post-surgical conditions of the female breast.
8. Discuss associated clinical findings, diagnostic tests, and laboratory values related to the breast.

B. The student will be able to:

<table>
<thead>
<tr>
<th>Outcomes and Assessment Measures</th>
<th>Assessment Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Outcomes</strong></td>
<td></td>
</tr>
<tr>
<td>1. Identify the anatomical structures of the female and male breast.</td>
<td>Discussion, Assignments, Quizzes/Examination</td>
</tr>
<tr>
<td>Student Outcomes</td>
<td>Assessment Procedures</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>2. Associate anatomical structures of the female and male breast with their</td>
<td>Discussion</td>
</tr>
<tr>
<td>sonographic appearance.</td>
<td>Assignments</td>
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<tr>
<td></td>
<td>Quizzes/Examination</td>
</tr>
<tr>
<td>3. Recognize indications for performing breast sonography.</td>
<td>Discussion</td>
</tr>
<tr>
<td></td>
<td>Assignments</td>
</tr>
<tr>
<td></td>
<td>Quizzes/Examination</td>
</tr>
<tr>
<td>4. Recall breast sonography scanning protocols.</td>
<td>Discussion</td>
</tr>
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<td></td>
<td>Assignments</td>
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<td></td>
<td>Quizzes/Examination</td>
</tr>
<tr>
<td>5. Differentiate the pathologic conditions of the female and male breast.</td>
<td>Discussion</td>
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<tr>
<td></td>
<td>Assignments</td>
</tr>
<tr>
<td></td>
<td>Quizzes/Examination</td>
</tr>
<tr>
<td>6. Describe the post-surgical conditions of the female breast.</td>
<td>Discussion</td>
</tr>
<tr>
<td></td>
<td>Assignments</td>
</tr>
<tr>
<td></td>
<td>Quizzes/Examination</td>
</tr>
<tr>
<td>7. Distinguish pathological conditions of the female and male breast by their</td>
<td>Discussion</td>
</tr>
<tr>
<td>sonographic characteristics.</td>
<td>Assignments</td>
</tr>
<tr>
<td></td>
<td>Quizzes/Examination</td>
</tr>
<tr>
<td>8. Identify related clinical findings, diagnostic tests, and laboratory values</td>
<td>Discussion</td>
</tr>
<tr>
<td>for the breast.</td>
<td>Assignments</td>
</tr>
<tr>
<td></td>
<td>Quizzes/Examination</td>
</tr>
</tbody>
</table>

IV. **Course Level Justification**

This intermediate course discusses the anatomy, physiology, and pathologic conditions of breast tissue. It presents the sonographic appearance and findings, clinical applications, scanning technique and protocols used in breast ultrasound.

V. **Topical Course Outline**

1.0 General Safety
   1.1 General Campus Safety
   1.2 Classroom Safety
   1.3 Fire Safety

2.0 Female Breast
   2.1 Location
   2.2 Size
   2.3 Normal Anatomy
   2.4 Physiology
   2.5 Sonographic Appearance
   2.6 Sonographic Applications
   2.7 Normal Variants
   2.8 Common Diagnostic Tests
   2.9 Laboratory Values
   2.10 Scanning Protocol
      2.10.1 Patient Communication, Education, and Assessment
      2.10.2 Scanning Technique
2.10.2.1 Transducer Selection
2.10.2.2 Transducer Orientation
2.10.2.3 Annotation
2.10.2.4 Measurement
2.10.3 Documentation

2.11 Abnormalities
2.11.1 Types
2.11.2 Pathology
   2.11.2.1 Benign Conditions
   2.11.2.2 Malignant Conditions
2.11.3 Physiology
2.11.4 Clinical Signs and Symptoms
2.11.5 Sonographic Findings

2.12 Post-Surgical/Treatment Anatomy
2.12.1 Lumpectomy
2.12.2 Mastectomy/Reconstruction
2.12.3 Axillary Dissection
2.12.4 Breast Reduction
2.12.5 Breast Augmentation
2.12.6 Breast Biopsy Specimen
2.12.7 Hormonal Therapy
2.12.8 Post-Radiation Changes
2.12.9 Neoadjuvant Chemotherapy

2.13 Image-Guided Procedures

2.14 Incorporation of Outside Data
2.14.1 Clinical Assessment
2.14.2 Correlation with Other Imaging Modalities
2.14.3 BI-RADS Categories

2.15 New Technologies

3.0 Male Breast
3.1 Location
3.2 Size
3.3 Normal Anatomy
3.4 Physiology
3.5 Sonographic Appearance
3.6 Sonographic Applications
3.7 Abnormalities
   3.7.1 Types
   3.7.2 Pathology
   3.7.3 Physiology
   3.7.4 Clinical Signs and Symptoms
   3.7.5 Sonographic Findings

VI. Suggested Texts


**VII. Bibliography**


## Course Action Request

**University of Alaska Anchorage**

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

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

### 2. Course Prefix
- DMS

### 3. Course Number
- A21

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

### 5. Credits/CEUs
- 1.0

### 6. Contact Hours
- (Lecture + Lab) (0+2)

### 7. Complete Course Title
- Fundamentals of Sonography Lab

### 8. Type of Course
- Academic

### 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

**Diagnostic Medical Sonography**
- Date: 09/25/2013
- Chair/Coordinator: Ryan Parnell

### 13b. Coordination Email
- Date: 01/21/2014
- Submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

### 13c. Coordination with Library Liaison
- Date: 01/21/2014

### 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)*

Provides students the opportunity to apply didactic knowledge using sonographic equipment in a supervised laboratory environment.

### 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. 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

Adjustments made to allow this lab to be required earlier in the program.

---

**Initiator (faculty only)**: Ryan Parnell

**Initiator Signed Initials**: ________

**Date**: __________

---

**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**: __________
University of Alaska Anchorage  
College of Health  
Course Content Guide

I. Date of Initiation  
September 2013

II. Curriculum Action Request
A. School  
College of Health
B. Course Subject  
DMS
C. Course Number  
A217
D. Number of Credits  
1.0
E. Contact Hours  
0 + 2
F. Course Title  
Fundamentals of Sonography Lab
G. Grading Basis  
P/NP
H. Implementation Date  
Fall 2014
I. Cross-Listed/Stacked  
N/A
J. Course Description  
Provides students the opportunity to apply didactic knowledge using sonographic equipment in a supervised laboratory environment.

K. Course Prerequisites  
N/A
L. Corequisites  
N/A
M. Other Restrictions  
N/A
N. Registration Restrictions  
Departmental approval
O. Course Fees  
Yes

III. Instructional Goals and Student Outcomes
A. The instructor will:
   1. Discuss the different components of an ultrasound system.
   2. Explain how to set up an ultrasound machine.
   3. Discuss how to select a transducer for a specific exam type.
   4. Demonstrate operation of ultrasound machine instrumentation and settings.
   5. Demonstrate scanning planes, approaches, and transducer orientation for different sonographic studies.
   6. Discuss the operation of M-Mode, color flow Doppler, spectral Doppler, and power Doppler.
   7. Provide different methods and recommendations for properly labeling images according to protocol.
   8. Quiz students on sonographic anatomy during real-time imaging.
   9. Demonstrate and discuss the different tests performed as part of a quality assurance program.
B. The student will be able to:

<p>| Outcomes and Assessment Measures |</p>
<table>
<thead>
<tr>
<th>Student Outcomes</th>
<th>Assessment Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describe the different hardware parts and software applications of an ultrasound system.</td>
<td>Discussion</td>
</tr>
<tr>
<td>2. Set up an ultrasound machine properly for a specific exam.</td>
<td>Discussion Performance Evaluation</td>
</tr>
<tr>
<td>3. Select appropriate transducer for anatomy being imaged.</td>
<td>Discussion Performance Evaluation</td>
</tr>
<tr>
<td>5. Demonstrate proper use of spectral, color flow, power Doppler, and M-Mode.</td>
<td>Discussion Performance Evaluation</td>
</tr>
<tr>
<td>7. Identify anatomy being demonstrated while scanning.</td>
<td>Discussion Performance Evaluation</td>
</tr>
<tr>
<td>8. Label images correctly according to transducer orientation, anatomy, and scanning direction.</td>
<td>Discussion Performance Evaluation</td>
</tr>
</tbody>
</table>

IV. Course Level Justification

This course allows students to apply didactic knowledge and develop basic skills in scan plane orientation, transducer selection, instrumentation, and knobology to visualize sonographic anatomy in a supervised laboratory environment.

V. Topical Course Outline

1.0 General Safety
   1.1 General Campus Safety
   1.2 Laboratory Safety
   1.3 Fire Safety

2.0 Sonographic Equipment Operation
   2.1 Transducer
   2.2 Instrumentation
   2.3 M-Mode and Doppler

3.0 Sonographic Techniques
   3.1 Acoustic Windows
   3.2 Scanning Approaches
   3.3 Effects of Patient Positioning

4.0 Sonographic Anatomy
   4.1 Abdomen
   4.2 Superficial Structures
   4.3 Obstetrics and Gynecology
   4.4 Vascular
5.0 Sonographic Labelling
  5.1 Placement
  5.2 Abbreviation
  5.3 Sequence

6.0 Quality Assurance Testing
  6.1 Contrast Sensitivity
  6.2 Dead Zone
  6.3 Depth of Penetration
  6.4 Beam Profile/Focal Zone
  6.5 Vertical Distance
  6.6 Horizontal Distance
  6.7 Axial Resolution
  6.8 Lateral Resolution
  6.9 Anechoic Masses

VI. Suggested Texts


# 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>CH College of Health</td>
<td>AHLS Division of Health Safety</td>
<td>Medical Imaging Sciences</td>
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<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>DMS</td>
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<td>Practical Sonography Lab</td>
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<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>
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<td>A-F</td>
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<tr>
<th>13a. Impacted Courses or Programs: List any programs or college requirements that require this course.</th>
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<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>
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<th>15. Course Description (suggested length 20 to 50 words)</th>
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<td>Mark appropriate box:</td>
<td>Provides students with an opportunity to apply scanning techniques in a realistic, supervised laboratory environment.</td>
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<td>Integrative Capstone</td>
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<td>Secondary scanning lab to provide students with additional supervised experience before entering practicum.</td>
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259
I. Date of Initiation
   September 2013

II. Curriculum Action Request
A. School                  College of Health
B. Course Subject         DMS
C. Course Number           A219
D. Number of Credits       3.0
E. Contact Hours           0 + 9
F. Course Title            Practical Sonography Lab
G. Grading Basis           P/NP
H. Implementation Date     Fall 2014
I. Cross-Listed/Stacked   N/A
J. Course Description      Provides students the opportunity to apply scanning techniques in a realistic, supervised laboratory environment.
K. Course Prerequisites    DMS A217 with a minimum grade of P
L. Corequisites            N/A
M. Other Restrictions      N/A
N. Registration Restrictions Departmental approval
O. Course Fees             Yes

III. Instructional Goals and Student Outcomes
A. The instructor will:
   1. Discuss examination room set-up.
   2. Review ultrasound machine operation.
   4. Review M-Mode and Doppler operation.
   5. Review scanning planes, approaches, and transducer orientation.
   6. Review image labeling.
   7. Discuss sonography worksheets and documentation.
   8. Assist students during practice examinations on simulated patients.
B. The student will be able to:

<table>
<thead>
<tr>
<th>Outcomes and Assessment Measures</th>
<th>Student Outcomes</th>
<th>Assessment Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Set-up examination room.</td>
<td>Performance Evaluation</td>
<td></td>
</tr>
<tr>
<td>2. Demonstrate proper operation of ultrasound machine controls.</td>
<td>Discussion Performance Evaluation</td>
<td></td>
</tr>
<tr>
<td>3. Select appropriate transducer for exam being performed.</td>
<td>Performance Evaluation</td>
<td></td>
</tr>
</tbody>
</table>
5. Demonstrate proper scanning techniques.

6. Label images correctly according to transducer orientation, anatomy, and scanning direction.

7. Document sonographic findings.

8. Perform complete sonographic examinations.

IV. **Course Level Justification**
   This intermediate course allows students to incorporate all aspects of didactic knowledge performance skills, and sonographic duties to complete sonographic examinations on simulated patients in a supervised laboratory environment. This course requires DMS A217 as a prerequisite.

V. **Topical Course Outline**
   1.0 General Safety
   2.0 Review of:
      2.1 Sonographic Room and Supplies
      2.2 Sonographic Equipment Operation
      2.3 Sonographic Techniques
      2.4 Sonographic Labeling and Documentation
   3.0 Sonographic Examinations
      3.1 Abdomen
      3.2 Superficial Structures
      3.3 Obstetrics and Gynecology
      3.4 Vascular

VI. **Suggested Texts**


<table>
<thead>
<tr>
<th>1a. School or College</th>
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<td>Medical Imaging Sciences</td>
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<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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<tbody>
<tr>
<td>DMS</td>
<td>A295A</td>
<td>N/A</td>
<td>9.0</td>
<td>(Lecture + Lab)</td>
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<td>Clinical Practicum I</td>
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<th>Max Credits</th>
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<td>Academic</td>
<td>Add or Change</td>
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<tr>
<th>10. Grading Basis</th>
<th>11. Implementation Date</th>
<th>12. Cross Listed with</th>
<th>Stacked with</th>
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<tr>
<th>13a. Impacted Courses or Programs:</th>
<th>List any programs or college requirements that require this course.</th>
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<tbody>
<tr>
<td>Impact Program/Course</td>
<td>Date of Coordination</td>
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<tr>
<td>1. Diagnostic Medical Sonography</td>
<td>09/29/2013</td>
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<th>Date: 01/21/2014 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>14. General Education Requirement</th>
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<tr>
<td>Oral Communication</td>
<td>Written Communication</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>Quantitative Skills</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>Humanities</td>
</tr>
<tr>
<td>Natural Sciences</td>
<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>Provides supervised clinical ultrasound experience in a health care facility. Students will observe, assist with, and perform a variety of sonographic examinations.</td>
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</tbody>
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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>
<th>16b. Co-requisite(s) (concurrent enrollment required)</th>
<th>16c. Automatic Restriction(s)</th>
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<tbody>
<tr>
<td>DMS A219 with a minimum grade of P</td>
<td>N/A</td>
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<th>16d. Registration Restriction(s) (non-codable)</th>
<th>Departmental approval</th>
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<tr>
<th>17. Mark if course has fees</th>
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<th>19. Justification for Action</th>
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<tr>
<td>Redistribution of clinical training hours.</td>
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<th>20. Initator Name (typed):</th>
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<td>Ryan Parnell</td>
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University of Alaska Anchorage  
College of Health  
Course Content Guide

I. Date of Initiation  
September 2013

II. Curriculum Action Request
A. School  
College of Health
B. Course Subject  
DMS
C. Course Number  
A295A
D. Number of Credits  
9.0
E. Contact Hours  
1 + 40 (600)
F. Course Title  
Clinical Practicum I
G. Grading Basis  
P/NP
H. Implementation Date  
Fall 2014
I. Cross-Listed/Stacked  
N/A
J. Course Description  
Provides supervised clinical ultrasound experience in a health care facility. Students will observe, assist with, and perform a variety of sonographic examinations.

K. Course Prerequisites  
DMS A219 with a minimum grade of P
L. Corequisites  
N/A
M. Other Restrictions  
N/A
N. Registration Restrictions  
Departmental approval
O. Course Fees  
Yes

III. Instructional Goals and Student Outcomes
A. The instructor will:
   1. Review policies, clinical performance expectations, and documentation.
   2. Ensure students complete required facility and department orientation.
   3. Oversee students’ clinical performance and task completion.
   4. Obtain feedback on clinical performance of students and preceptors.
B. The student will be able to:

<table>
<thead>
<tr>
<th>Outcomes and Assessment Measures</th>
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</thead>
<tbody>
<tr>
<td>Student Outcomes</td>
</tr>
<tr>
<td>------------------</td>
</tr>
</tbody>
</table>
| 1. Comply with all policies, performance expectations, and documentation procedures associated with a clinical ultrasound assignment. | Discussion  
Sign Policy Letter  
Clinical Evaluations |
| 2. Participate in all facility/department orientation and training. | Completion  
Certificate/Letter |
<table>
<thead>
<tr>
<th>Student Outcomes</th>
<th>Assessment Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Perform the required patient care tasks and sonographic examinations with supervision.</td>
<td>Clinical Evaluations</td>
</tr>
<tr>
<td>4. Provide feedback on preceptor involvement and quality of training.</td>
<td>Preceptor Evaluations</td>
</tr>
</tbody>
</table>

IV. Course Level Justification
This introductory course provides supervised clinical ultrasound experience in health care facilities. It allows students an opportunity to observe, assist with, and perform a variety of sonographic examinations. This course requires DMS A219 as a prerequisite.

V. Topical Course Outline
1.0 General Safety
  1.1 General Campus Safety
  1.2 Classroom Safety
  1.3 Fire Safety

2.0 Clinical Assignment
  2.1 Facility Assignment Schedule
  2.2 Clinical Coordinators
  2.3 Attendance Policy
  2.4 Standards of Conduct
  2.5 Dress Code
  2.6 Clinical Competency Documentation

3.0 Facility/Department Specific Orientation
  3.1 Personnel Introductions
  3.2 Tour
  3.3 Policies
  3.4 Infection Control
  3.5 Safety
  3.6 Equipment Familiarization
  3.7 Standard Operating Procedures
  3.8 Other

4.0 Clinical Performance
  4.1 Patient Care Requirements
    4.1.1 Vital Signs
    4.1.2 CPR
    4.1.3 Oxygen Administration
    4.1.4 Monitor Consciousness
    4.1.5 Universal Precautions
    4.1.6 Sterile Technique
    4.1.7 Informed Consent
  4.2 Scanning Technique
    4.2.1 Pulsed-Wave Doppler
      4.2.1.1 Spectral
      4.2.1.2 Color
      4.2.1.3 Power
    4.2.2 M-Mode
4.2.3 Harmonics

4.3 Sonographic Examinations

4.3.1 Abdomen

4.3.1.1 Aorta
4.3.1.2 Inferior Vena Cava
4.3.1.3 Liver
4.3.1.4 Gallbladder and Biliary Tract
4.3.1.5 Pancreas
4.3.1.6 Spleen
4.3.1.7 Kidneys
4.3.1.8 Bladder
4.3.1.9 Retroperitoneum
4.3.1.10 Abdominal Wall

4.3.2 Superficial Structures

4.3.2.1 Thyroid
4.3.2.2 Scrotum and Testicles
4.3.2.3 Breast
4.3.2.4 Chest Wall
4.3.2.5 Musculoskeletal
4.3.2.6 Other

4.3.3 Gynecology

4.3.3.1 Uterus
4.3.3.2 Ovaries
4.3.3.3 Adnexa

4.3.4 Obstetrics

4.3.4.1 First Trimester
4.3.4.2 Second Trimester
4.3.4.3 Third Trimester

4.3.5 Vascular

4.3.5.1 Cerebrovascular
4.3.5.2 Arterial Extremity
4.3.5.3 Venous Extremity

4.3.6 Portable

4.4 Examination Documentation and Reporting

VI. Suggested Texts


VII. Bibliography
**Course Action Request**

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

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<thead>
<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>AHLS Division of Health Safety</td>
<td>Medical Imaging Sciences</td>
</tr>
</tbody>
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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 (Lecture + Lab)</th>
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<tbody>
<tr>
<td>DMS</td>
<td>A295B</td>
<td>N/A</td>
<td>9.0</td>
<td>(0+40)</td>
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</table>

6. Complete Course Title

**Clinical Practicum II**

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

- **Type of Course:** Academic
  - Preparatory/Development
  - Non-credit
  - CEU
  - Professional Development

8. Type of Action: **Delete**

If a change, mark appropriate boxes:

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

9. Repeat Status No # of Repeats Max Credits

- **Grading Basis:** A-F
  - P/NP
  - NG

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

12. Cross Listed with with N/A
    - Stacked with N/A

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

**Impacted Program/Course**

<table>
<thead>
<tr>
<th>Name</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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</thead>
<tbody>
<tr>
<td>Diagnostic Medical Sonography</td>
<td>09/29/2013</td>
<td>Ryan Parnell</td>
</tr>
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</table>

**Initiator Name (typed): Ryan Parnell**

Initiator Signed Initials: _________ Date: __________

13b. Coordination Email Date: 01/21/2014

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

13c. Coordination with Library Liaison Date: 01/21/2014

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)

Provides continued supervised clinical ultrasound experience in a health care facility. Students will perform a variety of sonographic examinations.

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

DMS A295A with a minimum grade of P

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

N/A

16c. Automatic Restriction(s)

- College
- Major
- Class
- Level

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

Departmental approval

17. Mark if course has fees

18. Mark if course is a selected topic course

19. Justification for Action

Redistribution of clinical training hours.

Initiator (faculty only) Ryan Parnell

Initiator (TYPE NAME)

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266
University of Alaska Anchorage  
College of Health  
Course Content Guide

I. Date of Initiation  
September 2013

II. Curriculum Action Request  
A. School  
   College of Health  
B. Course Subject  
   DMS  
C. Course Number  
   A295B  
D. Number of Credits  
   9.0  
E. Contact Hours  
   0 + 40 (600)  
F. Course Title  
   Clinical Practicum II  
G. Grading Basis  
   P/NP  
H. Implementation Date  
   Fall 2014  
I. Cross-Listed/Stacked  
   N/A  
J. Course Description  
   Provides continued supervised clinical ultrasound experience in a health care facility.  
   Students will perform a variety of sonographic examinations.

K. Course Prerequisites  
   DMS A295A with a minimum grade of P  
L. Corequisites  
   N/A  
M. Other Restrictions  
   N/A  
N. Registration Restrictions  
   Departmental approval  
O. Course Fees  
   No

III. Instructional Goals and Student Outcomes  
A. The instructor will:  
   1. Review policies, clinical performance expectations, and documentation.  
   2. Ensure students complete required facility and department orientation.  
   3. Oversee students’ clinical performance and task completion.  
   4. Obtain feedback on clinical performance of students and preceptors.  
B. The student will be able to:  

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<td><strong>Assessment Procedures</strong></td>
</tr>
<tr>
<td>1. Comply with all policies, performance expectations, and documentation procedures associated with a clinical ultrasound assignment.</td>
<td>Clinical Evaluations</td>
</tr>
<tr>
<td>2. Participate in all facility/department orientation and training.</td>
<td>Completion Certificate/Letter</td>
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<tr>
<td>Student Outcomes</td>
<td>Assessment Procedures</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------</td>
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<tr>
<td>3. Perform the required patient care tasks and sonographic examinations with supervision.</td>
<td>Clinical Evaluations</td>
</tr>
<tr>
<td>4. Provide feedback on preceptor involvement and quality of training.</td>
<td>Preceptor Evaluations</td>
</tr>
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</table>

### IV. Course Level Justification

This intermediate course provides continued supervised clinical ultrasound experience in health care facilities. It allows students an opportunity to reinforce knowledge previously gained from observing, assisting with, and performing a variety of sonographic examinations. This course requires DMS A295A as a prerequisite.

### V. Topical Course Outline

1.0 General Safety
   1.1 General Campus Safety
   1.2 Classroom Safety
   1.3 Fire Safety

2.0 Clinical Assignment
   2.1 Facility Assignment Schedule
   2.2 Clinical Coordinators
   2.3 Attendance Policy
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   3.1 Personnel Introductions
   3.2 Tour
   3.3 Policies
   3.4 Infection Control
   3.5 Safety
   3.6 Equipment Familiarization
   3.7 Standard Operating Procedures
   3.8 Other

4.0 Clinical Performance
   4.1 Sonographic Examinations
      4.1.1 Abdomen
         4.1.1.1 Aorta
         4.1.1.2 Inferior Vena Cava
         4.1.1.3 Liver
         4.1.1.4 Gallbladder and Biliary Tract
         4.1.1.5 Pancreas
         4.1.1.6 Spleen
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4.1.2.3 Breast
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4.1.3 Gynecology
4.1.3.1 Uterus
4.1.3.2 Ovaries
4.1.3.3 Adnexa

4.1.4 Obstetrics
4.1.4.1 First Trimester
4.1.4.2 Second Trimester
4.1.4.3 Third Trimester
4.1.4.4 Multiple Gestations
4.1.4.5 Biophysical Profile

4.1.5 Vascular
4.1.5.1 Cerebrovascular
4.1.5.2 Arterial Extremity
4.1.5.3 Venous Extremity

4.1.6 Portable

4.1.7 Pediatric
4.1.7.1 Head
4.1.7.2 Spine
4.1.7.3 Abdomen
4.1.7.4 Renal
4.1.7.5 Reproductive
4.1.7.6 Hips

4.1.8 Interventional
4.1.8.1 Amniocentesis
4.1.8.2 Biopsy
4.1.8.3 Aspiration
4.1.8.4 Drainage

4.2 Examination Documentation and Reporting

VI. Suggested Texts


VII. Bibliography
### 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>
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<th>6. Complete Course Title</th>
<th>Abbreviated Title for Transcript (30 character)</th>
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<td>Pathophysiology Seminar</td>
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<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>
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<td>☐ Add or ☒ Change</td>
<td>☐ Delete</td>
<td>☒ A-F</td>
<td>☐ P/NP</td>
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<td>☐ semester/year</td>
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Initiator Name (typed): Ryan Parnell  
Initiator Signed Initials: _________  
Date: __________________

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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)*

Provides continued discussion of disease pathogenesis. Includes student presentation of case studies with correlation of sonographic, clinical, and other diagnostic testing information.

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

DMS A295A with a minimum grade of P

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

N/A

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

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

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

Departmental approval

17. [ ] Mark if course has fees

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

19. **Justification for Action**

Administrative change to course prerequisite and co-requisite.

<table>
<thead>
<tr>
<th>Initiator (faculty only)</th>
<th>Date</th>
<th>Dean/Director of School/College</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ryan Parnell</td>
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<td></td>
<td></td>
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</table>

270
I. Date of Initiation

September 2013

II. Curriculum Action Request

A. School  College of Health
B. Course Subject  DMS
C. Course Number  A392
D. Number of Credits  2.0
E. Contact Hours  2 + 0
F. Course Title  Pathophysiology Seminar
G. Grading Basis  A-F
H. Implementation Date  Fall 2014
I. Cross-Listed/Stacked  N/A
J. Course Description  Provides continued discussion of disease pathogenesis. Includes student presentation of case studies with correlation of sonographic, clinical, and other diagnostic testing information.
K. Course Prerequisites  DMS A295A with a minimum grade of P
L. Corequisites  N/A
M. Other Restrictions  N/A
N. Registration Restrictions  Departmental approval
O. Course Fees  No

III. Instructional Goals and Student Outcomes

A. The instructor will:
   1. Facilitate analysis of student case studies for various sonographic examinations.
   2. Review the importance of obtaining a complete medical history.
   3. Require students to use technically accurate terminology.
   4. Discuss how correlation with other diagnostic tests will assist with performing a sonographic examination.

B. The student will be able to:

<table>
<thead>
<tr>
<th>Student Outcomes</th>
<th>Assessment Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Compile patient and clinical history using effective communication and physical evaluation.</td>
<td>Discussion Assignments</td>
</tr>
<tr>
<td>2. Articulate findings using proper terminology to describe anatomy, pathology, and sonographic appearances.</td>
<td>Discussion Assignments</td>
</tr>
</tbody>
</table>

Student Outcomes  Assessment Procedures
3. Compare and contrast results from other diagnostic tests with sonographic findings to improve interpretation skills.

4. Strengthen communication of complex information with medical professionals.

IV. Course Level Justification
This advanced course provides problem-based learning. It allows students to apply knowledge and interpret findings for improved sonographic performance using real-world case studies. Students select topics from the following sonographic examination types: abdominal, gynecological, obstetrical, vascular, small part, and superficial.
This course requires DMS A295A as prerequisite.

V. Topical Course Outline
1.0 General Safety
   1.1 General Campus Safety
   1.2 Classroom Safety
   1.3 Fire Safety

2.0 Case Study
   2.1 Clinical History
   2.2 Patient Interview
   2.3 Physical Examination
   2.4 Sonographic Findings
   2.5 Correlation With:
      2.5.1 Imaging Tests
      2.5.2 Laboratory/Pathology Tests
      2.5.3 Other Tests
   2.6 Radiologist Report
   2.7 Summary

VI. Suggested Texts
St. Louis, MO: Mosby.

VII. Bibliography
St. Louis, MO: Mosby.

# 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 Imaging Sciences</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>DMS</td>
<td>A395</td>
<td>N/A</td>
<td>8.0</td>
<td>(0+32)</td>
</tr>
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</table>

6. Complete Course Title

**Clinical Practicum III**

Abbreviated Title for Transcript (30 characters)

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:

- [x] Prefix
- [x] Course Number
- [ ] Contact Hours
- [ ] Repeat Status
- [ ] Grading Basis
- [ ] Cross-Listed/Stacked
- [ ] Title
- [ ] Course Prerequisites
- [ ] Registration Restrictions
- [ ] Course Description
- [ ] Co-requisites
- [ ] General Education Requirement
- [ ] Test Score Prerequisites
- [ ] Other Update CCG (please specify)
- [ ] Class
- [ ] Level
- [ ] College
- [ ] Major
- [ ] Repeat Status
- [ ] Grading Basis
- [ ] Cross-Listed/Stacked
- [ ] Type of Course
- [ ] Type of Action
- [ ] Course Description
- [ ] Course Prerequisites
- [ ] Test Score Prerequisites
- [ ] Co-requisites
- [ ] Registration Restrictions
- [ ] General Education Requirement
- [ ] Class
- [ ] Level
- [ ] College
- [ ] Major
- [ ] Repeat Status
- [ ] Grading Basis
- [ ] Cross-Listed/Stacked

9. Repeat Status No

<table>
<thead>
<tr>
<th># of Repeats</th>
<th>Max Credits</th>
</tr>
</thead>
</table>

10. Grading Basis

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

11. Implementation Date

From: Fall/2014 To: 9999

12. Cross Listed with

- [ ] N/A

13. Coordination with Library Liaison

Date: 01/21/2014

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)

Provides continued supervised clinical ultrasound experience in a health care facility. Students will perform a variety of sonographic examinations.

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

DMS A295B with a minimum grade of P

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

N/A

16c. Automatic Restriction(s)

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

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

Departmental approval

17. [ ] Mark if course has fees

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

19. Justification for Action

Redistribution of clinical training hours.

Initiator Name (typed): Ryan Parnell

Initiator Signed Initials: __________ Date: __________

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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</thead>
<tbody>
<tr>
<td>Diagnostic Medical Sonography</td>
<td>09/25/2013</td>
<td>Ryan Parnell</td>
</tr>
</tbody>
</table>

13b. Coordination Email

Date: 01/21/2014

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

13c. Coordination with Library Liaison

Date: 01/21/2014

14a. 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)

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

DMS A295B with a minimum grade of P

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

N/A

16c. Automatic Restriction(s)

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

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

Departmental approval

17. [ ] Mark if course has fees

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

19. Justification for Action

Redistribution of clinical training hours.

Initiator (faculty only)

Ryan Parnell

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

September 2013

II. Curriculum Action Request

A. School: College of Health
B. Course Subject: DMS
C. Course Number: A395
D. Number of Credits: 8.0
E. Contact Hours: 0 + 32 (480)
F. Course Title: Clinical Practicum III
G. Grading Basis: P/NP
H. Implementation Date: Fall 2014
I. Cross-Listed/Stacked: N/A
J. Course Description: Provides continued supervised clinical ultrasound experience in a health care facility. Students will perform a variety of sonographic examinations.

K. Course Prerequisites: DMS A295B with a minimum grade of P
L. Corequisites: N/A
M. Other Restrictions: N/A
N. Registration Restrictions: Departmental approval
O. Course Fees: No

III. Instructional Goals and Student Outcomes

A. The instructor will:

1. Review policies, clinical performance expectations, and documentation.
2. Ensure students complete required facility and department orientation.
3. Oversee students’ clinical performance and task completion.
4. Obtain feedback on clinical performance of students and preceptors.
5. Evaluate the cumulative sonographic knowledge and performance of each student while performing at a health care facility.

B. The student will be able to:

<table>
<thead>
<tr>
<th>Outcomes and Assessment Measures</th>
<th>Assessment Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Comply with all policies, performance expectations, and documentation procedures associated with a clinical ultrasound assignment.</strong></td>
<td>Clinical Evaluations</td>
</tr>
<tr>
<td><strong>2. Participate in all facility/department orientation and training.</strong></td>
<td>Completion Certificate/Letter</td>
</tr>
<tr>
<td><strong>3. Perform the required patient care tasks and sonographic examinations with minimal supervision.</strong></td>
<td>Clinical Evaluations</td>
</tr>
<tr>
<td>Student Outcomes</td>
<td>Assessment Procedures</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>4. Provide feedback on preceptor involvement and quality of training.</td>
<td>Preceptor Evaluations</td>
</tr>
<tr>
<td>5. Demonstrate entry-level knowledge and proficiency in the performance of sonographic examinations and duties.</td>
<td>Instructor Evaluation</td>
</tr>
</tbody>
</table>

IV. Course Level Justification
This capstone course allows students to perform sonographic examinations with minimal supervision in health care facilities. It allows students to demonstrate the cognitive, psychomotor, and affective learning domains. Students’ ability to perform with entry-level proficiency will be evaluated by the instructor at the clinical sites. This course requires DMS A295B as a prerequisite.

V. Topical Course Outline

1.0 General Safety
   1.1 General Campus Safety
   1.2 Classroom Safety
   1.3 Fire Safety

2.0 Clinical Assignment
   2.1 Facility Assignment Schedule
   2.2 Clinical Coordinators
   2.3 Attendance Policy
   2.4 Standards of Conduct
   2.5 Dress Code
   2.6 Clinical Competency Documentation

3.0 Facility/Department Specific Orientation
   3.1 Personnel Introductions
   3.2 Tour
   3.3 Policies
   3.4 Infection Control
   3.5 Safety
   3.6 Equipment Familiarization
   3.7 Standard Operating Procedures
   3.8 Other

4.0 Clinical Performance
   4.1 Sonographic Examinations
      4.1.1 Abdomen
         4.1.1.1 Aorta
         4.1.1.2 Inferior Vena Cava
         4.1.1.3 Liver
         4.1.1.4 Gallbladder and Biliary Tract
         4.1.1.5 Pancreas
         4.1.1.6 Spleen
         4.1.1.7 Kidneys
         4.1.1.8 Bladder
         4.1.1.9 Retroperitoneum
4.1.1.10 Abdominal Wall

4.1.2 Superficial Structures
4.1.2.1 Thyroid
4.1.2.2 Scrotum and Testicles
4.1.2.3 Breast
4.1.2.4 Chest Wall
4.1.2.5 Musculoskeletal
4.1.2.6 Other

4.1.3 Gynecology
4.1.3.1 Uterus
4.1.3.2 Ovaries
4.1.3.3 Adnexa

4.1.4 Obstetrics
4.1.4.1 First Trimester
4.1.4.2 Second Trimester
4.1.4.3 Third Trimester
4.1.4.4 Multiple Gestations
4.1.4.5 Biophysical Profile

4.1.5 Vascular
4.1.5.1 Cerebrovascular
4.1.5.2 Arterial Extremity
4.1.5.3 Venous Extremity

4.1.6 Portable

4.1.7 Pediatric
4.1.7.1 Head
4.1.7.2 Spine
4.1.7.3 Abdomen
4.1.7.4 Renal
4.1.7.5 Reproductive
4.1.7.6 Hips

4.1.8 Interventional
4.1.8.1 Amniocentesis
4.1.8.2 Biopsy
4.1.8.3 Aspiration
4.1.8.4 Drainage

4.2 Examination Documentation and Reporting

5.0 Final Instructor Evaluation

VI. Suggested Texts
St. Louis, MO: Mosby.

St. Louis, MO: Mosby.

VII. Bibliography
TO: Undergraduate Academic Board

FROM: Ryan Parnell, Instructor
School of Allied Health

DATE: February 13, 2014

SUBJECT: Diagnostic Medical Sonography Program

I am submitting eight courses to be reviewed. Documents included in my submission are: Program Action Request, catalog document, Course Action Requests, and Course Content Guides.

Program courses needing approval are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>New Credits</th>
<th>Change</th>
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<tr>
<td>DMS A102</td>
<td>Foundations of Sonography</td>
<td>2+0</td>
<td>2</td>
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<tr>
<td>DMS A211</td>
<td>Small Parts Sonography</td>
<td>1+0</td>
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<tr>
<td>DMS A215</td>
<td>Breast Sonography</td>
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<td>DMS A217</td>
<td>Fundamentals of Sonography Lab</td>
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<td>DMS A219</td>
<td>Practical Sonography Lab</td>
<td>0+9</td>
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<tr>
<td>DMS A295A</td>
<td>Clinical Practicum I</td>
<td>1+40</td>
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<td>DMS A295B</td>
<td>Clinical Practicum II</td>
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<tr>
<td>DMS A392</td>
<td>Pathophysiology Seminar</td>
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<td>2</td>
<td>Change</td>
</tr>
<tr>
<td>DMS A395</td>
<td>Clinical Practicum III</td>
<td>0+32</td>
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The additions and changes to the academic and laboratory courses are based on recommendations by the course instructor, clinical site trainers, and advisory committee members. The change to DMS A392 coincides with an administrative change to DMS A395. The primary change to the three practicum courses is a redistribution of the required clinical training hours.

If there are any questions, I can be reached at 786-6976.
1a. School or College  
CH College of Health

1b. Department  
Medical Imaging Sciences

2. Complete Program Title/PREFIX
Diagnostic Medical Sonography / DMS

3. Type of Program
Choose one from the appropriate drop down menu:  
Undergraduate:  or  Graduate:  or Associate of Applied Science

This program is a Gainful Employment Program:  
☐ Yes  or  ☒ No

4. Type of Action:

<table>
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<th>PREFIX</th>
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</tr>
<tr>
<td>☒ Change</td>
<td>☐ Change</td>
</tr>
<tr>
<td>☐ Delete</td>
<td>☐ Inactivate</td>
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</table>

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

6a. Coordination with Affected Units
Department, School, or College:  Medical Imaging Sciences and School of Allied Health
Initiator Name (typed): RCP
Initiator Signed Initials:  Date: __________________

6b. Coordination Email submitted to Faculty Listserv (uaa-faculty@lists.uaa.alaska.edu)
Date: 01/21/2014

6c. Coordination with Library Liaison
Date: 01/21/2014

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

8. Justification for Action
Course adjustments and additions made in response to feedback and recommendations from course instructor, clinical trainers, and advisory committee members.

Initiator (faculty only)
Ryan Parnell
Initiator (TYPE NAME)

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<td>Undergraduate/Graduate Academic Board Chair</td>
<td>Date</td>
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<td>Provost or Designee</td>
<td>Date</td>
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</table>

☑ Approved
Disapproved
Approved
Disapproved
 Approved
Disapproved
Disapproved
Approved
PHIL A305 Professional Ethics (3)
Other courses approved by a dental hygiene advisor (1-6)

Note: No more than three credits total of DH A395E and DH A495E can be counted toward this requirement.
Note: Courses applied toward a minor in another discipline cannot be counted toward this requirement.
Note: No more than six credits of DH A390 Selected Topics in Dental Hygiene may be applied toward this degree.

1. Complete with a minimum grade of C:
   DH A424 Community Dental Health II 3
   (GER integrative capstone course)

2. Complete 10 elective credits.

3. A total of 120 credits is required for the degree.

4. AAS degree-seeking students may take BSDH courses, provided prerequisite requirements are fulfilled.

FACULTY

Elizabeth Barnett, Assistant Professor, barnett@uaa.alaska.edu
Sandra Pence, Associate Professor, pence@uaa.alaska.edu
Carri Shamburger, Term Assistant Professor, cashamburger@uaa.alaska.edu

DIAGNOSTIC MEDICAL SONOGRAPHY

Allied Health Science Building (AHS), Room 148M, (907)786-6976
www.uaa.alaska.edu/alliedhealth/academics/mis/dms

Diagnostic medical sonographers typically work in a variety of medical settings under the supervision of a radiologist or attending physician. Sonographers use special equipment to direct high frequency sound waves into areas of the patient’s body to form images that are interpreted by a physician for diagnosis. Diagnostic medical sonography requires the ability to sit or stand for long periods of time, employ excellent eye-hand coordination, communicate effectively, perform clinical assessments, use cognitive skills to adapt procedures as appropriate, use independent judgment to differentiate between normal and abnormal sonographic findings, and record sonographic data.

Associate of Applied Science, Diagnostic Medical Sonography

The Diagnostic Medical Sonography program is designed for individuals who already have training and experience in a profession that provides direct care or treatment to people. This program prepares competent entry-level general sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains. Examples of examinations performed by sonographers include: abdominal, gynecological, fetal, breast, vascular, small part, and superficial structures. Graduates are prepared to sit for a national certification exam in diagnostic medical sonography.

Program Student Learning Outcomes

At the completion of the Diagnostic Medical Sonography program, students are able to:

1. Apply entry-level knowledge of physics, anatomy, physiology, and pathophysiology related to sonography.
2. Perform general sonography procedures with continuing competency.
3. Demonstrate proficiency in patient assessment and care activities related to sonography.
4. Utilize effective oral and written communication with patients, physicians, and other medical personnel.
5. Employ professional and ethical judgment in the performance of sonographic duties.

Advising

Special admission and application procedure requirements apply—see Admission Requirements. Students will be required to physically attend classes at the Anchorage campus for the first year, and may be assigned to clinical sites in other Alaskan communities at their expense during the second year. Due to the risks associated with working in a health care setting, students may be required to provide proof of health insurance prior to starting clinical training.

Admissions Requirements

See Associate’s Degree Admissions Requirements in Chapter 7.

Students may be admitted to UAA with Diagnostic Medical Sonography as a pre-major.

Prior to being admitted as a full major, the student must meet special admission and application requirements, and be selected for entry into the program. Students must:
1. Meet one of the following:
   a. Possess an Associate's Degree, or higher, in a healthcare, treatment, or therapy/rehabilitation profession providing direct patient care.
   b. Possess a Bachelor Degree (any major) and a national certification or licensure in a healthcare, treatment, or therapy/rehabilitation profession providing direct patient care.
2. Provide proof of having worked in a healthcare, treatment, or therapy/rehabilitation profession providing direct patient care within the last five years.
3. Show, from official transcripts, successful completion of the following courses with a minimum grade of C:
   - BIOL A111 Human Anatomy and Physiology I 4
   - BIOL A112 Human Anatomy and Physiology II 4
   - ENGL A111 Introduction to Composition 3
   - MA A101 Medical Terminology 3
   - MATH A105 Intermediate Algebra 3
   - PHYS A123 Basic Physics I 3
   *RADT A151, or equivalent, will be accepted in lieu of PHYS A123.
4. Submit a Diagnostic Medical Sonography program application.

Applicants must contact the department for the application requirements, selection criteria, and application procedure for the year they wish to apply since it is subject to change periodically. Completion of the admission requirements does not guarantee selection into the program.

General University Requirements
Complete the General University Requirements for Associate of Applied Science Degrees located at the beginning of this chapter.

General Course Requirements
Complete the Associate of Applied Science General Degree Requirements located at the beginning of this chapter.

Major Requirements
1. Complete the following courses with a minimum grade of C or Pass:
   - DMS A102 Foundations of Sonography 2
   - DMS A105 Principles and Instrumentation I 3
   - DMS A107 Abdominal Sonography I 2
   - DMS A109 OB and Gyn Sonography I 2
   - DMS A205 Principles and Instrumentation II 2
   - DMS A207 Abdominal Sonography II 2
   - DMS A209 OB and Gyn Sonography II 2
   - DMS A211 Small Parts Sonography 1
   - DMS A213 Vascular Technology 2
   - DMS A215 Breast Sonography 1
   - DMS A217 Fundamentals of Sonography Lab 1
   - DMS A219 Practical Sonography Lab 3
   - DMS A221 Pediatric Sonography 1
   - DMS A295A Clinical Practicum I 9
   - DMS A295B Clinical Practicum II 9
   - DMS A392 Pathophysiology Seminar 2
   - DMS A395 Clinical Practicum III 8
   - RADT A231 Sectional Anatomy for Diagnostic Imaging 3
2. A total of 70 credits are required for the degree.

FACULTY
Ryan Parnell, Instructor, rparnell@uaa.alaska.edu
The Fire and Emergency Services Technology program provides entry-level knowledge and skills for students planning a career in emergency services as well as providing for career advancement and professional development of current firefighters.

It may take more than two years to complete the degree. The Associate of Applied Science degree has a technical core which follows the National Fire Academy’s Fire and Emergency Service Higher Education model core curriculum for two-year degree programs. The technical core consists of courses in principles of emergency services, building construction, fire prevention, safety and survival, protection systems, and fire behavior and combustion. Each student must complete the technical core as well as MATH A105 or GER Quantitative Skills course, a natural science with lab, and remaining UAA AAS General Course Requirements (see earlier in this chapter for further details). The student also completes courses from a variety of program electives.

For baccalaureate degree options, contact a Fire and Emergency Services Technology advisor.

Advising

Upon admission to the program, students are strongly encouraged to meet with their academic advisor each semester for the purpose of reviewing their academic progress and planning future courses. It is particularly important for students to meet with their advisor whenever academic difficulties arise.

Associate of Applied Science, Fire and Emergency Services Technology

Program Student Learning Outcomes

Students graduating with an Associate of Applied Science in Fire and Emergency Services Technology will be able to:

- Discuss the history, support organizations, resources, incident management, training, and emergency operations and relate how each plays a role within emergency services.
- Define and use basic terms and concepts associated with the chemistry and dynamics of fire.
- Relate how fire prevention and fire inspections are connected.
- Demonstrate the importance of public education in relation to fire prevention.
- Identify the equipment and systems used in control and extinguishment of fire.
- Identify the types of building construction and their uniqueness under fire conditions and how these components are related to firefighter and life safety.
- Relate how the basic principles and history related to the national firefighter life safety initiatives foster the need for cultural and behavioral change throughout the emergency services.

Admission Requirements

Satisfy the Admission to Certificate and Associate’s Degree Program Requirements in Chapter 7. Although it is not required, it is highly recommended that students be members of a paid or volunteer fire department prior to or shortly after being admitted to the program.

Academic Progress

In order to progress within the Associate of Applied Science Fire and Emergency Services Technology program, students must earn a satisfactory grade (C or higher or P) in all Fire and Emergency Service Technology (FIRE and EMT) courses required for the degree.

Degree 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 Course Requirements located at the beginning of this chapter.
3. Complete the Major Requirements listed below with a minimum grade of C.

Major Requirements

1. Complete the following required courses (28 credits):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRE A101</td>
<td>Principles of Emergency Services</td>
<td>3</td>
</tr>
<tr>
<td>FIRE A105</td>
<td>Fire Prevention</td>
<td>3</td>
</tr>
<tr>
<td>FIRE A121</td>
<td>Fire Behavior and Combustion</td>
<td>3</td>
</tr>
</tbody>
</table>
PHIL A305 Professional Ethics (3)
Other courses approved by a dental hygiene advisor (1-6)

Note: No more than three credits total of DH A395E and DH A495E can be counted toward this requirement.
Note: Courses applied toward a minor in another discipline cannot be counted toward this requirement.
Note: No more than six credits of DH A390 Selected Topics in Dental Hygiene may be applied toward this degree.

1. Complete with a minimum grade of C:
   DH A424 Community Dental Health II 3
   (GER integrative capstone course)

2. Complete 10 elective credits.
3. A total of 120 credits is required for the degree.
4. AAS degree-seeking students may take BSDH courses, provided prerequisite requirements are fulfilled.

FACULTY
Elizabeth Barnett, Assistant Professor, barnett@uaa.alaska.edu
Sandra Pence, Associate Professor, pence@uaa.alaska.edu
Carri Shamburger, Term Assistant Professor, cashamburger@uaa.alaska.edu

DIAGNOSTIC MEDICAL SONOGRAPHY

Diagnostic medical sonographers typically work in a variety of medical settings under the supervision of a radiologist or attending physician.

Diagnostic medical sonographers use special equipment to direct high frequency sound waves into areas of the patient’s body to form images that are interpreted by a physician for diagnosis. Diagnostic medical sonography requires the ability to sit or stand for long periods of time, employ excellent eye-hand coordination, communicate effectively, perform clinical assessments, use cognitive skills to adapt procedures as appropriate, use independent judgment to differentiate between normal and abnormal sonographic findings, and record sonographic data and communicate findings to the appropriate physician. Examples of examinations performed by sonographers include: abdominal, gynecological, fetal, breast, vascular, small part, and superficial.

Associate of Applied Science, Diagnostic Medical Sonography

The Diagnostic Medical Sonography program is designed for individuals who already have training and experience in a profession that provides direct care or treatment to people. This program prepares competent entry-level general sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains, provides education and training to prepare students for employment as a general sonographer. Examples of examinations performed by sonographers include: abdominal, gynecological, fetal, breast, vascular, small part, and superficial structures. Graduates are prepared to sit for a national certification exam in diagnostic medical sonography.

Program Student Learning Outcomes

At the completion of the Diagnostic Medical Sonography program, students are able to demonstrate:
1. Apply entry-level knowledge of physics, anatomy, physiology, and pathophysiology related to sonography.
3. Demonstrate proficiency in patient assessment and care activities related to sonography.
4. Utilize effective oral and written communication with patients, physicians, and other medical personnel.
5. Employ professional and ethical judgment in the performance of sonographic duties.

Advising

Special admission and application procedure requirements apply—see Admission Requirements. Interested students should contact the Diagnostic Medical Sonography faculty to review the procedures and requirements for admission. Completion of admission requirements does not guarantee acceptance into the program. Students will be required to physically attend classes at the Anchorage campus for the first year three semesters, and may be assigned practicums may require the need for travel to clinical sites in other Alaskan communities at their expense during the second year. Due to the risks associated with working in a health care setting, students may be required to provide proof of health insurance prior to starting clinical training. Health insurance is available for purchase through the UAA Student Health and Counseling Center.
Admissions Requirements

See Associate’s Degree Admissions Requirements in Chapter 7.

Students may be admitted to UAA with Diagnostic Medical Sonography as a pre-major.

Prior to being admitted as a full major, the student must complete the following additional special admission and application requirements and be selected for entry into the program. Students must:

1. Meet one of the following:
   a. Possess an Associate’s Degree, or higher, in a healthcare, treatment, or therapy/rehabilitation profession providing direct patient care.
   b. Possess a Bachelor Degree (any major) and a national certification or licensure in a healthcare, treatment, or therapy/rehabilitation profession providing direct patient care.

2. Provide proof of having worked in a healthcare, treatment, or therapy/rehabilitation profession providing direct patient care within the last five years.

3. Show, from official transcripts, successful completion of the following courses with a minimum grade of C:
   - BIOL A111 Human Anatomy and Physiology I 4
   - BIOL A112 Human Anatomy and Physiology II 4
   - ENGL A111 Introduction to Composition 3
   - MA A101 Medical Terminology 3
   - MATH A105 Intermediate Algebra 3
   - PHYS A123 Basic Physics I 3
   - *RADT A151, or equivalent, will be accepted in lieu of PHYS A123.

4. Submit a Diagnostic Medical Sonography program application.

5. Applicants must contact the department for the application requirements, selection criteria, and application procedure for the year they wish to apply since it is subject to change periodically. Completion of the admission requirements does not guarantee selection into the program.

6. Show, from official transcripts, successful completion of the following courses with a minimum grade of C or placement in a higher level course:
   - ENGL A111 Introduction to Composition 3
   - MATH A105 Intermediate Algebra 3

7. Submit a Diagnostic Medical Sonography program application.

8. Provide proof of the following:
   a. Immunity to measles, mumps, and rubella.
   b. Immunity to chickenpox.
   c. Immunity to hepatitis A and hepatitis B must have started the vaccination series prior to enrollment.
   d. Tetanus/diphtheria/pertussis (Tdap) vaccination.
   e. Freedom from active tuberculosis, proven by negative PPD skin test and a health examination.
   f. Screening for HIV results not required.

9. Attend an interview with a student selection panel for an interview.

10. Once admitted, and prior to the program start, submit to a national-level criminal background check.

General University Requirements

Complete the General University Requirements for Associate of Applied Science Degrees located at the beginning of this chapter.

General Course Requirements

Complete the Associate of Applied Science General Degree Requirements located at the beginning of this chapter.

Major Requirements

1. Complete the following courses with a minimum grade of C or Pass:
   - DMS A102 Foundations of Sonography 2
   - DMS A101 Introduction to Sonography 1
   - DMS A103 Patient Care in Sonography 2
   - DMS A105 Principles and Instrumentation I 3
DMS A107  Abdominal Sonography I  2
DMS A109  OB and Gyn Sonography I  2
DMS A205  Principles and Instrumentation II  2
DMS A207  Abdominal Sonography II  2
DMS A209  OB and Gyn Sonography II  2
DMS A211  Small Parts Sonography  12
DMS A213  Vascular Technology  2
DMS A215  Breast Sonography  12
DMS A217  Fundamentals of Sonography Lab  12
DMS A219  Practical Sonography Lab  3
DMS A221  Pediatric Sonography  1
DMS A295A  Clinical Practicum I  98
DMS A295B  Clinical Practicum II  98
DMS A295  Clinical Practicum III  98
DMS A392  Pathophysiology Seminar  2
DMS A395  Clinical Practicum III  810
RADT A231  Sectional Anatomy for Diagnostic Imaging  3

2. A total of 701 credits are required for the degree.

FACULTY
Ryan Parnell, Instructor, rparnell@uaa.alaska.edu

FIRE AND EMERGENCY SERVICES TECHNOLOGY

The Fire and Emergency Services Technology program provides entry-level knowledge and skills for students planning a career in emergency services as well as providing for career advancement and professional development of current firefighters.

It may take more than two years to complete the degree. The Associate of Applied Science degree has a technical core which follows the National Fire Academy’s Fire and Emergency Service Higher Education model core curriculum for two-year degree programs. The technical core consists of courses in principles of emergency services, building construction, fire prevention, safety and survival, protection systems, and fire behavior and combustion.

Each student must complete the technical core as well as MATH A105 or GER Quantitative Skills course, a natural science with lab, and remaining UAA AAS General Course Requirements (see earlier in this chapter for further details). The student also completes courses from a variety of program electives.

For baccalaureate degree options, contact a Fire and Emergency Services Technology advisor.

Advising
Upon admission to the program, students are strongly encouraged to meet with their academic advisor each semester for the purpose of reviewing their academic progress and planning future courses. It is particularly important for students to meet with their advisor whenever academic difficulties arise.

Associate of Applied Science, Fire and Emergency Services Technology

Program Student Learning Outcomes

Students graduating with an Associate of Applied Science in Fire and Emergency Services Technology will be able to:

- Discuss the history, support organizations, resources, incident management, training, and emergency operations and relate how each plays a role within emergency services.
- Define and use basic terms and concepts associated with the chemistry and dynamics of fire.
- Relate how fire prevention and fire inspections are connected.
- Demonstrate the importance of public education in relation to fire prevention.
- Identify the equipment and systems used in control and extinguishment of fire.
- Identify the types of building construction and their uniqueness under fire conditions and how these components are related to firefighter and life safety.
- Relate how the basic principles and history related to the national firefighter life safety initiatives foster the need for cultural and behavioral change throughout the emergency services.
Admission Requirements
Satisfy the Admission to Certificate and Associate’s Degree Program Requirements in Chapter 7. Although it is not required, it is highly recommended that students be members of a paid or volunteer fire department prior to or shortly after being admitted to the program.

Academic Progress
In order to progress within the Associate of Applied Science Fire and Emergency Services Technology program, students must earn a satisfactory grade (C or higher or P) in all Fire and Emergency Service Technology (FIRE and EMT) courses required for the degree.

Degree 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 Course Requirements located at the beginning of this chapter.
3. Complete the Major Requirements listed below with a minimum grade of C.

Major Requirements
1. Complete the following required courses (28 credits):
   - FIRE A101 Principles of Emergency Services 3
   - FIRE A105 Fire Prevention 3
   - FIRE A121 Fire Behavior and Combustion 3
1a. School or College  
AS CAS  
1b. Division  
AMSC Division of Math Science  
1c. Department  
Geological Sciences  

2. Course Prefix  
GEOL  
3. Course Number  
A430  
4. Previous Course Prefix & Number  
N/A  
5a. Credits/CEUs  
3  
5b. Contact Hours  
(Lecture + Lab)  
(1+6)  

6. Complete Course Title  
Sedimentology  
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 ☐ (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 ☐ 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>Catalog Page(s) Impacted</th>
<th>Date of Coordination</th>
<th>Chair/Coordinator Contacted</th>
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<tbody>
<tr>
<td>BS Geological Sciences</td>
<td>103-105</td>
<td>2/28/13</td>
<td>LeeAnn Munk</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Initiator Name (typed): Kristine Crossen  
Initiator Signed Initials: ___________  
Date: ___________  

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)  
Survey of sediments including origins, classification, transportation, composition, structures, and diagenesis. Lab analysis of grain size, sedimentary structures, concretions, hand samples, and thin sections. Field practicum. Special Notes: Students are required to provide their own transportation to field locales  

16a. Course Prerequisite(s) (list prefix and number)  
GEOL A310 and (STAT A253 or STAT A307) or instructor permission  
16b. Test Score(s)  
NA  
16c. Co-requisite(s) (concurrent enrollment required)  
NA  

16d. Other Restriction(s)  
☐ College ☒ Major ☐ Class ☐ Level  
16d. Registration Restriction(s) (non-codable)  
Junior standing  

17. ☒ Mark if course has fees  

18. ☐ Mark if course is a selected topic course  

19. Justification for Action  
A substantial revision of the previous class, now separated into 3 classes. Requires additional upper level prerequisites and additional laboratory time in class.
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Action</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiator (faculty only)</td>
<td>Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kristine Crossen</td>
<td>Initiator (TYPE NAME)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dean/Director of School/College</td>
<td>Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department Chairperson</td>
<td>Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curriculum Committee Chairperson</td>
<td>Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergraduate/Graduate Academic Board Chairperson</td>
<td>Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provost or Designee</td>
<td>Date</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I. **Date of Initiation:** Spring 2013

II. **Course Information:**
   A. College: CAS
   B. Course Subject: Geological Sciences
   C. Course Number: GEOL A430
   D. Number of Credits: 3 (1 + 6)
   E. Course Title: Sedimentology
   F. Grading Basis: A-F
   G. Course Description:
      Survey of sediments including origins, classification, transportation, composition, structures, and diagenesis. Lab analysis of grain size, sedimentary structures, concretions, hand samples, and thin sections. Field practicum.
   Special Notes: Students are required to provide their own transportation to field locales.
   H. Course Prerequisites: GEOL A310 and (STAT A253 or STAT A307) or instructor permission
   I. Restrictions: Junior Standing
   J. Lab Fees: Yes

III. **Instructional Goals and Student Learning Outcomes**

   A. **Instructional Goals.** The instructor will:
      1. Synthesize the processes of flowing water on beaches, in streams, and along the seafloor to help students understand the formation of ripples, bedding, surface markings, and soft sediment deformation.
      2. Explain possible sites for sediment concentrations by investigating glacial, desert, lacustrine, fluvial, deltaic, coastal, and oceanic basins.
      3. Explain physical separation and statistical analysis of grain size variations in the lab, and show students techniques for field projects.
      4. Present lab and field problems that require synthesis and critical thinking from students.

   B. **Student Learning Outcomes and Evaluation.** Upon course completion, the students will be able to:
<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reconstruct the processes and environments of formation from diagrams and identify bedding, sedimentary structures, surface markings, and ripples in lab samples and field outcrops</td>
<td>Exams and lab exercises</td>
</tr>
<tr>
<td>Operate laboratory equipment for the separation of grain sizes and apply statistical techniques to analyze the resultant graphs, diagrams, and numerical calculations</td>
<td>Lab reports and statistical analyses</td>
</tr>
<tr>
<td>Analyze hand samples to interpret provenance and depositional environments</td>
<td>Exams and lab exercises</td>
</tr>
<tr>
<td>Determine the depositional environment of lab samples, field locations, or analytical samples based on the diagrams, descriptions, and samples</td>
<td>Exams and field reports</td>
</tr>
<tr>
<td>Gather field and laboratory data, propose one or more hypotheses to explain the data, and justify hypotheses in class discussions</td>
<td>Field reports</td>
</tr>
</tbody>
</table>

IV. **Course Evaluations**
The course will be evaluated using lecture and laboratory exams, laboratory exercises, field exercises and reports, microscope and statistical analyses of sediments, and group research on sediments from unknown sites.

V. **Course Level Justification**
This course requires both geology and statistics prerequisites, and builds upon knowledge from previous curricula.

VI. **Topical Course Outline**
A. **Sedimentary Structures**
   1. Hydrologic processes
   2. Grain sizes
   3. Bedding
   4. Ripples
   5. Tool marks

B. **Soft Sediment Deformation**
   1. Concretions
   2. Bioturbation

C. **Depositional Environments**
   1. Deserts and alluvial fans
   2. Lacustrine
   3. Fluvial and deltaic
   4. Glacial and glacial marine
   5. Coastal, shelf, and deep marine environments

D. **Lab Group Research Project**
   1. Assorted samples and sediment analysis
   2. Gravel analysis
   3. Sand analysis
   4. Pipette analysis
5. Research of unknown sand and aeolian samples
E. Local Field Sedimentary Sections
   1. Turbidites
   2. Glacial lacustrine
   3. Glacial outwash
   4. Aeolian

VII. Suggested Text
Boggs, S., 2012, Principles of Sedimentology and Stratigraphy,

VIII. Bibliography
Collinson, J.D. and Thompson, D.B., 2002, Sedimentary Structures,


Leeder, M.J., 1999, Sedimentology: Process and Product, Chapman and

Leeder, M., 2003, Sedimentology and Sedimentary Basins, Blackwell,

Nichols, G., 2009, Sedimentology and Stratigraphy, Wiley-Blackwell, West Sussex,
419 p.

Reineck, H. and Singh, I.H., 1986, Depositional Sedimentary Environments,
Springler-Verlag, Berlin, 551 p.
### 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>
<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>
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<tbody>
<tr>
<td>GEOL</td>
<td>A431</td>
<td>N/A</td>
<td>3</td>
<td>(Lecture + Lab)</td>
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</tbody>
</table>

| 6. Complete Course Title | Stratigraphy |

<table>
<thead>
<tr>
<th>7. Type of Course</th>
<th>□ Academic</th>
<th>□ Preparatory/Development</th>
<th>□ Non-credit</th>
<th>□ CEU</th>
<th>□ Professional Development</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>8. Type of Action:</th>
<th>□ Add</th>
<th>□ Change</th>
<th>□ Delete</th>
<th></th>
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If a change, mark appropriate boxes:

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

<table>
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<tr>
<th>9. Repeat Status No</th>
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<thead>
<tr>
<th>10. Grading Basis</th>
<th>□ A-F</th>
<th>□ P/NP</th>
<th>□ NG</th>
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<tr>
<th>11. Implementation Date</th>
<th>From:</th>
<th>To:</th>
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<tbody>
<tr>
<td></td>
<td>Fall/2014</td>
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<table>
<thead>
<tr>
<th>12. Cross Listed with</th>
<th>□ Stacked with</th>
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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](http://www.uaa.alaska.edu/governance).

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<tbody>
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<td>Geological Sciences BS</td>
<td>103-105</td>
<td>2/28/13</td>
<td>LeeAnn Munk</td>
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<table>
<thead>
<tr>
<th>13b. Coordination Email</th>
<th>Date:</th>
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<tbody>
<tr>
<td>submitted to Faculty Listserv:</td>
<td>2/28/13</td>
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</table>

<table>
<thead>
<tr>
<th>13c. Coordination with Library Liaison</th>
<th>Date:</th>
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</thead>
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<tr>
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</table>

<table>
<thead>
<tr>
<th>14. General Education Requirement</th>
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</table>

Mark appropriate box:

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

<table>
<thead>
<tr>
<th>15. Course Description (suggested length 20 to 50 words)</th>
</tr>
</thead>
</table>

Introduction to concepts and applications in stratigraphic analyses. Includes concepts of lithostratigraphy, magnetostratigraphy, biostratigraphy, chronostratigraphy, seismic stratigraphy, and sequence stratigraphy. Discussion of the completeness of the stratigraphic record and the North American Stratigraphic Code.

<table>
<thead>
<tr>
<th>16a. Course Prerequisite(s) (list prefix and number)</th>
<th>16b. Test Score(s)</th>
<th>16c. Co-requisite(s) (concurrent enrollment required)</th>
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<tbody>
<tr>
<td>GEOL A430</td>
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<table>
<thead>
<tr>
<th>16d. Other Restriction(s)</th>
<th>16e. Registration Restriction(s) (non-codable)</th>
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<table>
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The Department is making a curriculum change to this course. One class is being separated into three because this topic needs more coverage. This change will bring the program into line with other geology programs nationwide.
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Course Content Guide  
University of Alaska Anchorage  

GEOL A431  
Stratigraphy

I. Date of Initiation: Spring 2013

II. Course Information
A. College or School: CAS  
B. Course Subject: Geological Sciences  
C. Course Number: GEOL A431  
D. Number of Credits: 3.0 (3+0)  
E. Course Title: Stratigraphy  
F. Grading Basis: A-F  
G. Course Description: Introduction to concepts and applications in stratigraphic analyses. Includes lithostratigraphy, magnetostratigraphy, biostratigraphy, chronostratigraphy, hydrostratigraphy, seismic stratigraphy, sequence stratigraphy, and basin analysis. Discussion of the completeness of the stratigraphic record, and the North American Stratigraphic Code.  
H. Course Prerequisites: GEOL A430  
I. Restrictions: Junior standing  
J. Fees: Yes

III. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:  
   1) Introduce concepts and methodologies of stratigraphic analysis.  
   2) Provide application based stratigraphic exercises that will develop critical thinking skills.  
   3) Provide special focus on the completeness of the stratigraphic record and proper use of the North American Stratigraphic Code.  

B. Student Learning Outcomes. Upon course completion, the students will be able to:  

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Evaluation</th>
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<tbody>
<tr>
<td>Perform stratigraphic analysis</td>
<td>Exercises and exams</td>
</tr>
<tr>
<td>Define the utility and limitation of different stratigraphic techniques</td>
<td>Exercises and projects</td>
</tr>
<tr>
<td>Develop skills required to utilize multiple types of data to address a research question in stratigraphic correlation</td>
<td>Student presentation</td>
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</table>
IV. Course Evaluation
Students will be evaluated based on homework assignments, laboratory exercises, exams, a literature review paper and an oral presentation.

V. Course Level Justification
This course will introduce basic concepts in stratigraphy and the utility of the stratigraphic record. Students must have a firm background in sedimentology, depositional systems, and historical geology in order to effectively utilize stratigraphic concepts and techniques. Critical thinking skills and sufficient background knowledge in sedimentology is a necessity as stratigraphic techniques require students to interpret data in both spatial and temporal contexts.

VI. Topical Course Outline
A. Lithostratigraphy
   1) Stratigraphic contacts
   2) Sedimentary facies
   3) Walther’s Law
   4) North American Stratigraphic Code
   5) Correlation of lithostratigraphic unit
B. Magnetostratigraphy
   1) Remnant magnetism
   2) Magnetic polarity time scale
   3) Classification of magnetostratigraphic units
   4) Applications of magnetostratigraphy
C. Biostratigraphy
   1) Stratigraphic subdivision from fossils
   2) Biostratigraphic Units
   3) Biostratigraphic Zonation
   4) Biocorrelation
D. Chronostratigraphy
   1) Geologic time units
   2) Geologic time scale
   3) Radiochronology
   4) Chronocorrelation
   5) Event Stratigraphy
E. Hydrostratigraphy
   1) Hydrofacies development
   2) Correlation of hydrostratigraphic units
   3) Groundwater resource development
F. Seismic Stratigraphy
   1) Principles of seismic methods
   2) Seismic facies
   3) Seismic stratigraphic correlation
G. Sequence Stratigraphy
   1) Fundamental concepts and models
   2) Sequence stratigraphic data
3) Applications to depositional systems
4) Applications to petroleum exploration

VI. Suggested Text(s)


VII. Bibliography


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

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<td>AS CAS</td>
<td>AMSC Division of Math Science</td>
<td>Geological Sciences</td>
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<td>Sedimentary Petrology Laboratory</td>
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Introduction to clastic petrology, carbonate petrology, and sedimentary petrography. Emphasis on hand sample identification and petrographic techniques.

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<tr>
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<tr>
<td>(list prefix and number or test code and score)</td>
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| 17. Mark if course has fees | |
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This course is designed to provide students with a specific set of skills in the area of sedimentary petrology to better prepare them for acceptance into graduate school or entrance into the work force.

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<tbody>
<tr>
<td>Kristine J Crossen</td>
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Initiator (TYPE NAME)

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Initiator (faculty only)

| Kristine J Crossen |

Initiator (TYPE NAME)

| Date |

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| Date |

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297
Course Content Guide  
University of Alaska Anchorage  
Department of Geological Sciences  

GEOL A432L  
Sedimentary Petrology Laboratory

I. Date of Initiation: Spring 2013

II. Course Information:
   A) College or School: College of Arts and Sciences  
   B) Course Title: Sedimentary Petrology Laboratory  
   C) Course Subject/Number: GEOL A432L  
   D) Credit Hours: 1  
   E) Contact Time: (0+3)  
   F) Grading Information: A-F  
   G) Course Description: Introduction to clastic petrology, carbonate petrology, and sedimentary petrography. Emphasis on hand sample identification and petrographic techniques.  
   H) Course Prerequisites: GEOL A321 and (GEOL A430 or concurrent enrollment)  
   I) Restrictions: Junior standing  
   J) Lab Fees: Yes

III. Instructional Goals and Student Learning Outcomes
   A) Instructional Goals. The instructor will:
      1) Introduce students to concepts of sedimentary petrology.  
      2) Demonstrate hand sample and petrographic techniques used to determine sedimentary rock petrogenesis.  
      3) Guide students to obtain and utilize petrological data to determine the origin and environment of deposition of sedimentary rocks.
   
   B) Student Learning Outcomes. The students will:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Evaluation</th>
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<tbody>
<tr>
<td>Identify unknown sedimentary rocks given sets of hand samples, thin sections, and a petrographic microscope</td>
<td>Lab reports and quizzes</td>
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<tr>
<td>Determine the petrogenesis of a sedimentary rock given petrologic data</td>
<td>Lab reports and final project</td>
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<tr>
<td>Construct stratigraphic correlations using petrologic data</td>
<td>Lab reports and final project</td>
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IV. Course Activities
   The course will consist of brief introductory lectures, lab work, and group work facilitated by the instructor.
V. Methods of Assessment
   A) Lab reports consist of completing lithologic descriptions of thin sections, completing
      lithologic descriptions of hand samples, and determining petrogenesis of samples.
   B) Quizzes consist of identifying a suite of unknown thin sections and hand samples.
   C) Final Project includes working in groups to identify unknown sedimentary samples,
      constructing stratigraphic correlations, and interpreting petrologic data.

VI. Course Level Justification
   This course is designed to refine basic skills learned in introductory geology courses and
   build on advanced geological skills learned in GEOL 321, 340 and 341.

VII. Topical Course Outline
   A) Siliciclastic rocks
      1) Conglomerates
      2) Sandstones
      3) Mudrocks
   B) Carbonate Rocks
      1) Limestones
      2) Dolomites
   C) Other Rocks
      1) Siliceous
      2) Evaporites

VIII. Suggested Texts
   Hall, 662p.

IX. Bibliography
   p. 51-72.

   Dickinson, W.R., 1970, Interpreting detrital modes of greywacke and arkose; Journal of

   Dickinson, W.R., and Suczek, C.A. 1979, Plate tectonics and sandstone compositions: American

   Harris, P.M., Ellis, J., Purkis, S. 2010, Delineating and quantifying depositional facies patterns of
   a modern carbonate sand deposits on Great Bahama Bank: Society of Economic
   Paleontologists and Mineralogists, DVD.

   Trop, T.M., Szuch, D.A., Rioux, M., Blodgett, R.B. 2005, Sedimentology and provenance of the
   upper Jurassic Naknek Formation, Talkeetna Mountains, Alaska: Bearings on the
   570-588.
# 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
- Grade Basis
- Title
- Course Description
- Test Score Prerequisites
- Automatic Restrictions
- Other Update CCG (please specify)

9. Repeat Status No

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10. Grading Basis

- A-F
- P/NP
- NG

11. Implementation Date

From: Fall/2014 To: 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>BSE ME</td>
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<td>Jeff Hoffman</td>
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Initiator Name (typed): Jennifer M. Brock
Initiator Signed Initials: _________
Date: __________

13b. Coordination Email

| Date: ____________________ | Initiator Signed Initials: _________ | Date: __________ |

submitted to Faculty Listserv: (uafaculty@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)

Fundamental principles and elementary applications of thermodynamics, including the first and second laws of thermodynamics, thermodynamic systems, properties, processes and cycles.

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

- MATH A201 and (CHEM A106 or PHYS A211) 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 Standard engineering course fee.

18. Mark if course is a selected topic course

19. Justification for Action

This CCG was last updated in 2005. In addition to updating the course description, title and prerequisites, the CCG has been updated.

Initiator (faculty only) Jennifer McFerran Brock

Initiator (TYPE NAME) Jennifer McFerran Brock

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300
COURSE CONTENT GUIDE
University of Alaska Anchorage, School of Engineering

ES A346
Introduction to Thermodynamics

1. Change Date 16 October 2013

2. Course Information
A. College School of Engineering (EN)
B. Course Prefix ES
C. Course Number A346
D. Number of Credits and Contact Hours
   Number of Credits: 3
   Contact Hours: 3+0
E. Course Title Introduction to Thermodynamics
F. Grading Basis A-F
G. Implementation Date Fall 2014
H. Course Description Fundamental principles and elementary applications of thermodynamics, including the first and second laws of thermodynamics, thermodynamic systems, properties, processes and cycles.
I. Course Prerequisites MATH A201 and (CHEM A106 or PHYS A211) with a minimum grade of C.
J. Course Fee Yes, standard engineering course fee.

3. Course Level Justification
This course introduces the study of thermodynamics at a fundamental level, concentrating on properties, processes and simple thermodynamic cycles. It is intended for students who have advanced to a sufficient level in their studies of mathematics and the physical sciences, but at the same time is considered a foundational, entry-level course for engineering students.

4. Instructional Goals
The instructor will
1. Introduce thermodynamic properties of matter and the energy and mass transfer processes that cause these properties to change.
2. Provide a thorough introduction to the first and second laws of thermodynamics.
3. Introduce basic thermodynamic cycles and their applications for power generation and refrigeration.
4. Introduce psychrometric processes and the psychrometric chart.
5. Emphasize the importance of approaching engineering problems in a systematic manner.

5. Student Learning Outcomes and Assessment Methods

Students will be evaluated using a variety of tools at the instructor’s discretion which may include but are not limited to those listed below:

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<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Assessment Method</th>
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<td></td>
</tr>
<tr>
<td>1. Determine thermodynamic properties of substances.</td>
<td>Homework assignments, projects, quizzes, midterm exams, in-class presentations, and a final/comprehensive exam</td>
</tr>
<tr>
<td>2. Apply the first law of thermodynamics to both closed and open systems.</td>
<td>Homework assignments, projects, quizzes, midterm exams, in-class presentations, and a final/comprehensive exam</td>
</tr>
<tr>
<td>3. Apply the second law of thermodynamics to both closed and open systems.</td>
<td>Homework assignments, projects, quizzes, midterm exams, in-class presentations, and a final/comprehensive exam</td>
</tr>
<tr>
<td>4. Analyze thermodynamic cycles for both power generation and refrigeration.</td>
<td>Homework assignments, projects, quizzes, midterm exams, in-class presentations, and a final/comprehensive exam</td>
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<tr>
<td>5. Analyze psychrometric processes.</td>
<td>Homework assignments, projects, quizzes, midterm exams, in-class presentations, and a final/comprehensive exam</td>
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<tr>
<td>6. Approach engineering problem solutions in a systematic manner and communicate the steps of the analysis clearly.</td>
<td>Homework assignments, projects, quizzes, midterm exams, in-class presentations, and a final/comprehensive exam</td>
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</tbody>
</table>

6. Topical Course Outline

This course will cover a variety of topics related to heat transfer, which may include but are not limited to:

1. Introductory concepts
   a. Thermodynamic properties
   b. Energy transfer
2. First law of thermodynamics
3. Second law of thermodynamics
4. Power generation cycles
5. Refrigeration cycles
6. Atmospheric air and psychrometrics

7. Suggested Texts

8. Bibliography