COLLEGE OF SOCIAL & BEHAVIORAL SCIENCES
Ethnic Studies
ES 420 RACE, SPACE & SEGREGATION (3 units)
Sample Syllabus

Meeting Time/Location
Instructor:
Phone:
Office:
Office Hours:
E-mail:

Course prerequisites
ES 100 or Junior status & higher

Course description
This course examines concepts of race, class, gender, space, and segregation through U.S. as well as global perspectives. We consider both the social forces that create racial and spatial segregation and their consequences for the life chances of people of color. We also consider organized responses to these phenomena, including social movements and other forms of opposition to oppression. Students will learn to apply relevant concepts and social scientific theories to the subject matter.

Distribution Block: U.S. Ethnic Diversity
This course fits all three components of the Global Learning Initiative:
Global Engagement (assessing the extent to which segregation is a "universal" feature of urban development across the globe); US Ethnic Diversity (examining how segregation in U.S. cities emerges as the result of systemic disempowerment of racial and ethnic groups, locally and nationally); and Environmental Sustainability (analyzing whether "liveable" cities can include strategic planning that addresses racial, economic, social, and political conflicts in multicultural population centers of the present and future).

Student Learning Expectations/Outcomes for this Course
* Basic understanding of the social forces that create racial and spatial segregation and their consequences for people of color in the U.S. and other societies; (Global Engagement & Diversity)
* Foundational understanding of how cities produce and reinforce social, racial/ethnic hierarchies; (Diversity)
* Assessing how individuals and organized social movements challenge various forms of exploitation, inequality, and segregation; (Diversity & Global Engagement)
* Understanding of the methods and movements that have helped build socially just and ecologically sustainable communities.(Environmental Sustainability & Diversity)

Course structure/approach
This class combines lectures with small group discussion and activities, as well as guest speakers and media.

Textbook and required materials
Required Texts


Recommended


Effective Fall 2013
Course outline
Unit One: Race, Power, and Urban vs. Rural Space

Week 1
Introduction to the course; Exercise: "What is Race?"

Logan and Molotch, Urban Fortunes, Ch. 1: “The Social Construction of Cities,” and begin reading Ch. 2

Week 2
Logan and Molotch, Ch. 2: “Places as Commodities” and Ch. 3: “The City as a Growth Machine”

Undergraduate Presentations: Wilson, “The Meaning and Significance of Race” (Bb Learn)

Week 3
Logan and Molotch, Ch. 4 “Homes: Exchange and Sentiment in the Neighborhood”

Logan and Molotch Ch. 5: “How Government Matters”

Undergraduate Presentations: Pardo, “Creating Community: Mexican American Women in Eastside Los Angeles.” (Bb Learn)

Week 4
Massey and Denton, American Apartheid, Ch. 1: “The Missing Link”

Undergraduate Presentations: Zubrinsky-Charles, “Socioeconomic Status and Segregation: African Americans, Hispanics, and Asians in Los Angeles.” (Bb Learn)

Massey and Denton, Ch. 2: “The Construction of the Ghetto”

Week 5
Massey and Denton, Ch. 3: “The Persistence of the Ghetto”

Undergraduate Presentations: Ong and Umemoto, “Life and Work in the Innercity.” (Bb Learn)

Massey and Denton, Ch. 3 & Begin Ch. 4

Undergraduate Presentations: Moss and Tilly, “Employer Perceptions of Race and Skill.” (Bb Learn)

Week 6
Massey and Denton, Ch. 4: “The Continuing Causes of Segregation”

Undergraduate Presentations: Hossfeld, “Hiring Immigrant Women: Silicon Valley’s ‘Simple Formula.’” (Bb Learn)

Massey and Denton, Ch. 5: “The Creation of Underclass Communities”

Undergraduate Presentations: Robinson, “Racial Inequality and the Logic of the Labor Market.” (Bb Learn)

Week 7
Massey and Denton, REVIEW

Undergraduate Presentations: Lipsitz, “The Rent Strike.” (Bb Learn)

MIDTERM EXAM

Unit Two: Environmental Racism
Week 8
Hurley, Environmental Inequalities “Preface” & Ch. 1: “Class, Race, and...the Urban...”

Hurley, Ch. 1 Review, and Begin Ch. 2

Introduce Southside Project Assignments

Week 9

Hurley, Ch. 2: “The Perils of Pollution in the Steel City”

Undergraduate Presentations: *Benally: “Uranium Mining Begins Near Grand Canyon”* *(Bb Learn)*

Hurley, Ch. 2 Review, and Begin Ch. 3

Week 10

Hurley, Ch. 3: “Opposition to Blind Progress: Middle-Class Environmentalism”

Undergraduate Presentations: *Santa Clara Center for Occupational Safety and Health, “Struggle and Strength Tales from the Workers Story Process.”* *(Bb Learn)*

Hurley, Ch. 3 Review, and Begin Ch. 4

Southside Project Assignments

Week 11

Hurley, Ch. 4: “Tired of Working in Pollution and Having it Follow Us Home Working-Class Environmentalism.”

Undergraduate Presentations: *Burtnan, “The Revolution will be Mapped.”* *(Bb Learn)*

Hurley, Ch. 4 Review, and Begin Ch. 5

Southside Project Assignments

Unit Three: Race, Cities, and Landscapes: The Struggle for Sustainability

Week 12

Hurley, Ch. 5: “Rats, Roaches, and Smoke: African American Environmentalism”

Undergraduate Presentations: *Sachs, “Virtual Ecology: A Brief Environmental History of Silicon Valley.”* *(Bb Learn)*

Hurley, Ch. 5 Review, and Begin Ch. 6

Undergraduate Presentations: *Goldsmith, “From the Metropolis to Globalization”* *(Bb Learn)*

Southside Project Assignments

Week 13

Hurley, Ch. 6: “The Rise and Fall of an Environmental Coalition” and Ch. 7-8: “The Social Geography of Pollution and the Politics of Sand” and “Epilogue”

Bb LEARN Course Website Online Assignment

Week 14

Lipsitz, How Racism Takes Place, Chs. TBA; Southside Project Work
Undergraduate Presentations: Rodriguez, "The Real 'New World Order'" (Bb Learn)

Lipsitz, Chs. TBA
Southside Project Work – Feedback and Critiques

Undergraduate Presentations: Sassen, "Cities in a World Economy." (Bb Learn)

Week 15

Lipsitz, Chs. TBA
Southside Project Work – Feedback and Critiques

Week 16  FINAL WEEK

Presentation/Exhibition of Final Projects on exam day

Assessment of Student Learning Outcomes

Attendance and Participation: Consistent attendance and active participation in each class meeting are required. Missing three or more classes (unexcused absences) will affect your participation grade; students can be dropped for excessive absences or tardiness. Students are expected to contribute to in-class discussion and activities. Occasional on-line assignments and class discussions will be posted through the Bb LEARN course website or on media reserves for analysis outside of class. In addition, presentations and group projects will be assigned to help students comprehend critical themes, issues or methods of analysis.

Pop Quizzes will be given periodically during the semester, in conjunction with in-class work. Quizzes will assess students' ability to effectively demonstrate critical reading and critical thinking skills through their comprehension of the reading material, lectures, and class discussions.

Class Presentation: Students will work in pairs to present an overview of an article from the reading list on a scheduled day during the semester. A two-page critical summary and discussion questions will be due the week before your presentation, but the presentation can take a variety of formats: an interview, a “game show,” or a dramatic skit, for example, in which you creatively explain key issues from the article. The purpose is to explore and present critical thinking about the topic. Instructions will be posted on Bb LEARN.

Term Project & Reflection Paper: Students will work in groups on a project applying the course themes to Flagstaff’s historic Southside neighborhood. NAU borders the southern boundary of the Southside, which is the oldest continuously occupied neighborhood in the city. Southside is home to more than 3,000 residents (about 5% of the City’s overall population). Considered to be the “wrong side of the tracks,” Southside was established as a segregated neighborhood—occupied by culturally, racially and ethnically diverse groups of Basque shepherders, Latinos, and African-Americans who were recruited from Mexico and Louisiana, respectively, to work in the sawmills and railroad companies. Historical perceptions and stereotypes remain to this day, while Southside is still considered the “poor” side of town. Using photographs, oral histories, planning documents, media accounts, and archives assembled in the Cline Library Special Collections as well as discussions with Southside residents, students will create term projects demonstrating understanding of the course themes while contributing to the history of the Southside. Undergraduate students will complete a group project and submit a 4-6 page “Reflection” paper, assessing the project, its relation to the course themes, and their own role within the research group. Instructions will be posted on Bb LEARN.

Grading System

<table>
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<th>Category</th>
<th>Points</th>
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<tbody>
<tr>
<td>Class Participation/Attendance</td>
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</tr>
<tr>
<td>Quizzes</td>
<td>50</td>
</tr>
<tr>
<td>Presentations</td>
<td>50</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>100</td>
</tr>
<tr>
<td>Term Project &amp; Reflection</td>
<td>150</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>400</strong></td>
</tr>
</tbody>
</table>

A = 360-400pts (90% and above)
B = 320-359pts (80-89%)
C = 280-319pts (70-79%)
D = 240-279 (60-69%)

Effective Fall 2013
Course Policies

Cheating and Plagiarism
Plagiarism, handing in written work which is not your own, is a form of stealing. Other people (your teachers, your fellow students, a tutor in the writing lab) may give you suggestions for improving a piece of written work, but the work itself must be your own. If you turn in a paper that someone else has written or copy sections of a book or article without proper documentation and claim that it is your own, then you will be reported to the University. Range of penalties may be assigned based on infraction. If you are not sure about your documentation, or simply cannot complete an assignment please ask before you act.

NORTHERN ARIZONA UNIVERSITY
POLICY STATEMENTS
SAFE ENVIRONMENT POLICY
NAU's Safe Working and Learning Environment Policy seeks to prohibit discrimination and promote the safety of all individuals within the university. The goal of this policy is to prevent the occurrence of discrimination on the basis of sex, race, color, age, national origin, religion, sexual orientation, disability, or veteran status and to prevent sexual harassment, sexual assault or retaliation by anyone at this university.

You may obtain a copy of this policy from the college dean's office or from the NAU's Affirmative Action website http://home.nau.edu/diversity/. If you have concerns about this policy, it is important that you contact the departmental chair, dean's office, the Office of Student Life (928-523-5181), or NAU's Office of Affirmative Action (928-523-3312).

STUDENTS WITH DISABILITIES
If you have a documented disability, you can arrange for accommodations by contacting Disability Resources (DR) at 523-8773 (voice) or 523-6906 (TTY), dr@nau.edu (e-mail) or 928-523-8747 (fax). Students needing academic accommodations are required to register with DR and provide required disability related documentation. Although you may request an accommodation at any time, in order for DR to best meet your individual needs, you are urged to register and submit necessary documentation (www.nau.edu/dr) 8 weeks prior to the time you wish to receive accommodations. DR is strongly committed to the needs of student with disabilities and the promotion of Universal Design. Concerns or questions related to the accessibility of programs and facilities at NAU may be brought to the attention of DR or the Office of Affirmative Action and Equal Opportunity (523-3312).

INSTITUTIONAL REVIEW BOARD
Any study involving observation or interaction with human subjects that originates at NAU—including a course project, report, or research paper—must be reviewed and approved by the Institutional Review Board (IRB) for the protection of human subjects in research and research-related activities.

The IRB meets monthly. Proposals must be submitted for review at least fifteen working days before the monthly meeting. You should consult with your course instructor early in the course to ascertain if your project needs to be reviewed by the IRB and/or to secure information or appropriate forms and procedures for the IRB review. Your instructor and department chair or college dean must sign the application for approval by the IRB. The IRB categorizes projects into three levels depending on the nature of the project: exempt from further review, expedited review, or full board review. If the IRB certifies that a project is exempt from further review, you need not resubmit the project for continuing IRB review as long as there are no modifications in the exempted procedures.

A copy of the IRB Policy and Procedures Manual is available in each department's administrative office and each college dean's office or on their website: http://www.research.nau.edu/vpr/IRB/index.htm. If you have questions, contact the IRB Coordinator in the Office of the Vice President for Research at 928-523-8288 or 523-4340.

Effective Fall 2013
ACADEMIC INTEGRITY
The university takes an extremely serious view of violations of academic integrity. As members of the academic community, NAU’s administration, faculty, staff and students are dedicated to promoting an atmosphere of honesty and are committed to maintaining the academic integrity essential to the education process. Inherent in this commitment is the belief that academic dishonesty in all forms violates the basic principles of integrity and impedes learning. Students are therefore responsible for conducting themselves in an academically honest manner.

Individual students and faculty members are responsible for identifying instances of academic dishonesty. Faculty members then recommend penalties to the department chair or college dean in keeping with the severity of the violation. The complete policy on academic integrity is in Appendix G of NAU’s Student Handbook http://www4.nau.edu/stulife/handbookdishonesty.htm.

ACADEMIC CONTACT HOUR POLICY
The Arizona Board of Regents Academic Contact Hour Policy (ABOR Handbook, 2-206, Academic Credit) states: “an hour of work is the equivalent of 50 minutes of class time...at least 15 contact hours of recitation, lecture, discussion, testing or evaluation, seminar, or colloquium as well as a minimum of 30 hours of student homework is required for each unit of credit.”

The reasonable interpretation of this policy is that for every credit hour, a student should expect, on average, to do a minimum of two additional hours of work per week; e.g., preparation, homework, studying.

SENSITIVE COURSE MATERIALS
If an instructor believes it is appropriate, the syllabus should communicate to students that some course content may be considered sensitive by some students.

“University education aims to expand student understanding and awareness. Thus, it necessarily involves engagement with a wide range of information, ideas, and creative representations. In the course of college studies, students can expect to encounter—and critically appraise—materials that may differ from and perhaps challenge familiar understandings, ideas, and beliefs. Students are encouraged to discuss these matters with faculty.”
Proposal for Plan Change or Plan Deletion

☐ FAST TRACK (Select if this will be a fast track item. Refer to Fast Track Policy for eligibility)

If this proposal represents changes to the intent of the plan or its integral components, review by the college dean, graduate dean (for graduate items) and/or the provost may be required prior to college curricular submission.

All Plans with NCATE designation, or plans seeking NCATE designation, must include an NCATE Accreditation Memo of Approval from the NAU NCATE administrator prior to college curricular submission.

UCC proposals must include an updated 8-term plan.
UGC proposals must include an updated program of study.


3. Academic Ethnic Studies GCRT
   Plan Name: (ETHSTCT)                    4. Emphasis:

5. Plan proposal: ☒ Plan Change
   ☐ New Emphasis
   ☐ Emphasis Change
   ☐ Emphasis Deletion

6. Current student learning outcomes of the plan. If structured as plan/emphasis, include for both core and emphasis.

The expected outcomes for students completing the graduate certificate in Ethnic Studies are to:
1. identify and critically assess critical methodological and theoretical approaches to Ethnic Studies;
2. identify and critically assess foundational works in Ethnic Studies;
3. identify and critically assess critical approaches to African American Studies, Asian American Studies, Latin@/Chican@ Studies,

Show the proposed changes in this column (if applicable).Bold the changes, to differentiate from what is not changing, and change font to Bold Red with strikethrough for what is being deleted. (Resources, Examples & Tools for Developing Effective Program Student Learning Outcomes).

UNCHANGED

Effective Fall 2013
Native American Studies, Postcolonial Studies, and Decolonial Studies;
4. critically assess the meaning of "race" and understand its social and historical constructions and evolution;
5. critically assess the meaning of "ethnicity" and understand its social and historical constructions and evolution;
6. critically assess the meaning of "whiteness" in its historical and institutional contexts;
7. critically assess the intersection of race/ethnicity with hierarchies of power including gender, class, sexuality, nationality, and age.
8. critically assess the changing nature and evolution of racism;
9. understand the impact of race and ethnicity in shaping social thought & policy;
10. understand ethnic studies as a dynamic process of bridging scholarship, culture, and activism;
11. examine the interdisciplinary nature of ethnic studies and the dynamic nexus with related academic disciplines;
12. develop the above critical skills by a) examining the highest quality literature in these areas by the top scholars in these fields; and b) having high quality small group in-depth discussions with faculty who have demonstrated their expertise in these fields through their integrated scholarship, teaching, and community involvement; and
13. demonstrate high quality scholarship in one or more of the above areas under the guidance of faculty who have demonstrated their expertise in these areas through integrated scholarship, teaching, and community involvement.
7. Current catalog plan overview and requirements in this column. Cut and paste the **Overview** and **Details** tabs, in their entirety, from the current on-line academic catalog: (http://catalog.nau.edu/Catalog/)

**Ethnic Studies GCERT**

In addition to University Requirements:

- Complete individual plan requirements.

Please note that you may be able to use some courses to meet more than one requirement. Contact your advisor for details.

<table>
<thead>
<tr>
<th>Minimum Units for Completion</th>
<th>15</th>
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<tr>
<td>Program of Study</td>
<td>View Program of Study</td>
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**Additional Admission Requirements**

Admission requirements over and above admission to NAU are required.
- Online application required (www.nau.edu/graduateapply). Details on admission requirements are included in the online application.
- Undergraduate degree from a regionally accredited institution with a 3.0 gpa
- Transcripts
- For more details on these admission requirements, please visit http://nau.edu/GradCol/Admissions/Graduate-Admissions-Policy/.
- International students have additional admission requirements: http://nau.edu/GradCol/Admissions/International/.

**Certificate Requirements**

Take the following 15 units:
- Core Requirements (3 units)
  - ES 600 (3 units)
- U.S. Ethnic Diversity Requirement, select from the following (9 units):
  - ANT 615
  - BME 570
  - CCJ 545
  - ENG 545, ENG 546, ENG 547
- ENG 545, ENG 546, ENG 547
- EPS 596
- ES 584 or EDF 584
- ES 599, ES 697
- HIS 505, HIS 592
- POS 606, POS 657
- SOC 512, SOC 515
- SPA 531

Diaspora/Global Requirement, select from the following (3 units):
- ANT 548, ANT 618
- CCJ 515
- ENG 651
- HIS 520, HIS 564, HIS 565, HIS 580
- POS 604*, POS 672, POS 676
- SPA 532, SPA 534
- WGS 600, WGS 601

Students may not transfer any courses from other universities into this program. No more than 6 units applied to another program can be counted towards this certificate. No more than 6 credit hours can be taken from a single discipline other than Ethnic Studies.

*Only some topics are permissible; consult with the Ethnic Studies Director.

This certificate may be pursued and completed concurrently with a degree program or as a stand-alone certificate. Under both circumstances, federal financial aid can be used for this certificate.

Be aware that some courses may have prerequisites that you must also take. For prerequisite information click on the course or see your advisor.

8. Justification for proposal:
This proposal adds the new ES 520 course to the certificate's US Ethnic Diversity elective list.

9. NCATE designation, if applicable:
   □ Initial Plan  □ Advanced Plan  □ Remove Designation


Effective Fall 2013
See effective dates calendar.

11. Will this proposal impact other plans, sub plans, or course offerings, etc.?  
    Yes ☐ No ☒
    If yes, describe the impact. If applicable, include evidence of notification to and/or response from each impacted academic unit

**Answer 12-13 for UCC/ECCC only:**

12. A major is differentiated from another major by required course commonality: 24 units of the required credit hours of a major must be unique, (i.e. not common or not dual use as a required element in another major), to that major. Does this plan have 24 units of unique required credit?  
    Yes ☐ No ☐

13. Minor: A planned group of courses from one or more subject matter areas consisting of at least 18 hours and no more than 24 hours. At least 12 hours of the minor must be unique to that minor to differentiate it from other minors. Does this minor have 12 units of unique required credit?  
    Yes ☐ No ☐

**Answer 14-15 for UGC only:**

14. If this is a non-thesis plan, does it require a minimum of 24 units of formal graded coursework?  
    Yes ☐ No ☐
    If no, explain why this proposal should be approved.

15. If this is a thesis plan, does it require a minimum of 18 units of formal graded coursework?  
    Yes ☐ No ☐
    If no, explain why this proposal should be approved.

**FLAGSTAFF MOUNTAIN CAMPUS**

Scott Galland  10/29/2013
Reviewed by Curriculum Process Associate

Approvals:

Department Chair/Unit Head (if appropriate)  
Date

Chair of college curriculum committee  
Date

Dean of college  
Date

Effective Fall 2013
See effective dates calendar.

11. Will this proposal impact other plans, sub plans, or course offerings, etc.? Yes ☐ No ☒
If yes, describe the impact. If applicable, include evidence of notification to and/or response from each impacted academic unit

Answer 12-13 for UCC/ECCC only:

12. A major is differentiated from another major by required course commonality: 24 units of the required credit hours of a major must be unique, (i.e. not common or not dual use as a required element in another major), to that major. Does this plan have 24 units of unique required credit? Yes ☐ No ☒

13. Minor: A planned group of courses from one or more subject matter areas consisting of at least 18 hours and no more than 24 hours. At least 12 hours of the minor must be unique to that minor to differentiate it from other minors. Does this minor have 12 units of unique required credit? Yes ☐ No ☒

Answer 14-15 for UGC only:

14. If this is a non-thesis plan, does it require a minimum of 24 units of formal graded coursework? Yes ☐ No ☒
If no, explain why this proposal should be approved.

15. If this is a thesis plan, does it require a minimum of 18 units of formal graded coursework? Yes ☐ No ☒
If no, explain why this proposal should be approved.

FLAGSTAFF MOUNTAIN CAMPUS
Scott Galland

Reviewed by Curriculum Process Associate

Approvals: Ricardo Justiça

Department Chair/Unit Head (if appropriate) Ricardo Justiça

Chair of college curriculum committee

Dean of college

10/29/2013
3/3/2104
3/3/2104

Ethics Studies

Date

Date

Date

Date

Date
For Committee use only:

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<thead>
<tr>
<th>UCC/UGC Approval</th>
<th>Date</th>
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<tr>
<td>Approved as submitted:</td>
<td>Yes [ ] No [ ]</td>
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<tr>
<td>Approved as modified:</td>
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**EXTENDED CAMPUSES**

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<th>Date</th>
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<td>Approvals:</td>
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<tr>
<td>Academic Unit Head</td>
<td>Date</td>
</tr>
<tr>
<td>Division Curriculum Committee (Yuma, Yavapai, or Personalized Learning)</td>
<td>Date</td>
</tr>
<tr>
<td>Division Administrator in Extended Campuses (Yuma, Yavapai, or Personalized Learning)</td>
<td>Date</td>
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<tr>
<td>Faculty Chair of Extended Campuses Curriculum Committee (Yuma, Yavapai, or Personalized Learning)</td>
<td>Date</td>
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<tr>
<td>Chief Academic Officer; Extended Campuses (or Designee)</td>
<td>Date</td>
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<tr>
<td>Approved as submitted:</td>
<td>Yes [ ] No [ ]</td>
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<td>Approved as modified:</td>
<td>Yes [ ] No [ ]</td>
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Effective Fall 2013
Please attach proposed Syllabus in approved university format.

1. Course subject and number: GSP 529  
2. Units: 3

See upper and lower division undergraduate course definitions.

3. College: College of Social and Behavioral Sciences  
4. Academic Unit: Department of Geography, Planning, and Recreation

5. Student Learning Outcomes of the new course. (Resources & Examples for Developing Course Learning Outcomes)

By the completion of this course, students will be able to:
- Articulate principles and applications of satellite image analysis and 3-dimensional lidar data;
- Conduct image acquisition, preprocessing techniques, and image analysis methods;
- Apply ENVI software and independently perform satellite image analysis;
- Critically review remote sensing publications and evaluate image processing techniques;
- Write a project proposal with literature review.
- Deliver an oral presentation focused on research in remote sensing, describing project objectives, methods, and results of their analysis.

6. Justification for new course, including how the course contributes to degree program outcomes, or other university requirements / student learning outcomes. (Resources, Examples & Tools for Developing Effective Program Student Learning Outcomes).

A graduate level remote sensing course has not been offered at NAU for several years. Faculty who taught similar courses retired and their courses have not been updated. This new course has been designed to include satellite image analysis and digital interpretation methods in ENVI software. Computer-based digital image analysis is a major and new emphasis, which was not previously taught. A “pilot” course, GSP 599 Applied Remote Sensing, has been offered twice to determine the feasibility of, and demand for, this new course. Both times the demand exceeded the 15-student capacity. The course learning outcomes listed above are vital to graduate student degrees in geospatial sciences and related fields. The course focus is on contemporary technologies and software now relied upon within the remote sensing field. Finally, the Department of Geography, Planning & Recreation recently revived and redesigned an undergraduate-level remote sensing course (GSP 320) which is required for the new Geospatial Sciences emphasis within the Geographic Science & Community Planning degree. The GSP 320 is considered a potential “feeder” course to this co-convened graduate course, thereby providing a remote sensing course sequence for students intending to find employment within this field or related fields.

Effective Fall 2013
7. Effective **BEGINNING** of what term and year?  **Fall 2014**  
   See effective dates calendar.

8. Long course title:  **APPLIED REMOTE SENSING**  
   (max. 100 characters including spaces)

9. Short course title:  **APPLIED REMOTE SENSING**  
   (max. 30 characters including spaces)

10. Catalog course description (**max. 60 words, excluding requisites**):  
   This course will introduce the principles and applications of digital image analysis. Students will work with digital images from various satellite sensors and 3-dimensional lidar data in the latest edition of ENVI software. An individual term project will be required using the techniques learned in the course and via literature review.

11. Will this course be part of any plan (major, minor or certificate) or sub plan (emphasis)?  
   Yes [ ]  No [X]
   
   If yes, include the appropriate plan proposal. 
   The course will be used as elective credit for the Applied Geospatial Sciences M.S. No plan change proposal is necessary because the course won't be specifically named in the program of study.

12. Does this course duplicate content of existing courses?  
   Yes [ ]  No [X]
   
   If yes, list the courses with duplicate material. If the duplication is greater than 20%, explain why NAU should establish this course.

13. Will this course impact any other academic unit's enrollment or plan(s)?  
   Yes [ ]  No [X]
   
   If yes, describe the impact. If applicable, include evidence of notification to and/or response from each impacted academic unit.

14. Grading option:  
   - Letter grade [X]
   - Pass/Fail [ ]
   - Both [ ]

15. Co-convened with:  
   (For example: ESE 450 and ESE 550)  
   See co-convening policy.
   
14a. UGC approval date*:  
   (For example: ESE 450 and ESE 550)  
   See co-convening policy.  
   *Must be approved by UGC before UCC submission, and both course syllabi must be presented.

16. Cross-listed with:  
   **EES 529**  
   (For example: ES 450 and DIS 450)  
   See cross listing policy.  
   Please submit a single cross-listed syllabus that will be used for all cross-listed courses.

17. May course be repeated for additional units?  
   Yes [ ]  No [X]

   16a. If yes, maximum units allowed?  
   [ ]

   16b. If yes, may course be repeated for additional units in the same term?  
   Yes [ ]  No [X]

**Effective Fall 2013**
16a. If yes, maximum units allowed? Yes □ No □
16b. If yes, may course be repeated for additional units in the same term?

18. Prerequisites: None
If prerequisites, include the rationale for the prerequisites.

19. Co requisites: None
If co requisites, include the rationale for the co requisites.

20. Does this course include combined lecture and lab components? Yes □ No □
If yes, include the units specific to each component in the course description above.

Dr. Temuulen "Teki" Sankey,
Dr. Erik Schiefer, Mr. Mark Manone

21. Names of the current faculty qualified to teach this course: Dr. Temuulen "Teki" Sankey,
Dr. Erik Schiefer, Mr. Mark Manone

22. Classes scheduled before the regular term begins and/or after the regular term ends may require additional action. Review "see description" and "see impacts" for "Classes Starting/Ending Outside Regular Term" under the heading "Forms" http://nau.edu/Registrar/Faculty-Resources/Schedule-of-Classes-Maintenance/.
Do you anticipate this course will be scheduled outside the regular term? Yes □ No □

Answer 22-23 for UCC/ECCC only:

23. Is this course being proposed for Liberal Studies designation? Yes □ No □
If yes, include a Liberal Studies proposal and syllabus with this proposal.

24. Is this course being proposed for Diversity designation? Yes □ No □
If yes, include a Diversity proposal and syllabus with this proposal.

---

FLAGSTAFF MOUNTAIN CAMPUS

Scott Galland 2/4/2014
Reviewed by Curriculum Process Associate Date

Approvals:

[Signatures]

Department Chair/Unit Head (if appropriate) Date

Chair of college curriculum committee Date

Effective Fall 2013
### EXTENDED CAMPUSES

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Approved as submitted: Yes □ No □
Approved as modified: Yes □ No □

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Approved as submitted:  
Yes [ ]  No [ ]

Approved as modified:  
Yes [ ]  No [ ]

Effective Fall 2013
General Information
- College of Engineering, Forestry, and Natural Sciences, School of Earth Sciences and Environmental Sustainability/College of Social and Behavioral Sciences, Department of Geography, Recreation, and Planning
- EES 529/GSP 529 Applied Remote Sensing
- This course will be offered: Fall Semester
- 2.5 hours/week and 3 credit hours
- Instructor: Dr. Temuulen “Teki” Sankey
- Office address: ARD Building, Room 223, 1298 S. Knoles Drive, Flagstaff AZ 86011
- Office hours: M W 10am-Noon

Course prerequisites
There are no prerequisites for this course.

Course description
This course will introduce the principles and applications of digital image analysis. Students will work with various multispectral satellite images from different sensors, 3-dimensional lidar data, and airborne hyperspectral images in the latest edition of ENVI software. An individual term project will be required using the techniques learned in the course and via literature review.

Student Learning Expectations/Outcomes for this Course
By the completion of this course, students will be able to:
- Articulate principles and applications of satellite image analysis and 3-dimensional lidar data;
- Conduct image acquisition, preprocessing techniques, and image analysis methods;
- Apply ENVI software and independently perform satellite image analysis;
- Critically review remote sensing publications and evaluate image processing techniques.
- Write a project proposal with literature review.
- Deliver an oral presentation focused on research in remote sensing, describing project objectives, methods, and results of their analysis.

Students will complete a term project (topic and study area to be determined by students as they relate to their graduate research), in which they will retrieve satellite data from image archives and perform complete pre-processing and image analysis. Students will prepare a project proposal with literature reviews of up to 10 peer-reviewed publications. At the end of the semester, students will deliver a presentation and a term paper, in which they will describe the project objectives, methods, and results of their analysis.

Course structure/approach
The course will meet Mondays and Wednesdays 2:00-3:15 pm. Each class will have a lecture/presentation component, where a new image analysis topic will be introduced by the instructor. On some of the topics, guest lecturers will present their research and students will review research articles. Each lecture/presentation will be followed by a laboratory exercise, in which students will work with a dataset related to the topic and complete the analysis technique presented in the lecture. These in-class lab exercises are designed to provide real world examples of the image

Effective Fall 2013
analysis applications presented. Students will then be able to choose the image and analysis

techniques that best fit their research interest and term project. Two weeks of class time will be
dedicated to their research and term projects to help students troubleshoot and interact individually
with the instructor.

Textbook and required materials
There is no required textbook for this class. Reading materials for the course will mostly consist of
peer-reviewed publications and 1-2 chapters of various remote sensing textbooks. All course material
will be provided electronically via BbLearn. The following are examples of journal articles the students
will read and discuss in class:

- Hmimina, G., Dufrene, E., Pontailler, Y., Delpierre, N., Aubinet, M., Caquet, B., Grandcourt, A.,
  Burban, B., Flechard, C., Granier, A., Gross, P., Heinesch, B., Longdoz, B., Moureaux, C.,
  of MODIS satellite data to predict vegetation phenology in different biomes: An investigation
- Tinkham, W., Huang, H., Smith, A., Shrestha, R., Falkowski, M., Hudak, A., Link, T., Glenn, N.,
- Balch, J., Bradley, B., D’Antonio, C., and J. Gomez-Dans. 2013. Introduced annual grass
  increases fire activity across the arid western USA (1980-2009). Global Change Biology, 19:
  173-183.

Recommended optional materials/references (attach reading list)
Available at NAU Cline Library.

Course outline
Week 1: Introduction to digital remote sensing principles
  - Energy sources and Radiation Principles
  - Energy interactions in the atmosphere and Reflectance
  - Introduction to ENVI: Getting to know ENVI software

Week 2: Landsat data and image acquisition
  - History of Landsat Program
  - Landsat data characteristics
  - Lab exercise: Acquiring Landsat data from the Landsat archive (web-based) and
    Analysis of Landsat 5 TM satellite image and Landsat 8 OLI satellite image bands in
    ENVI

Week 3: Image preprocessing techniques and atmospheric correction
  - Multispectral and multitemporal image bands
  - Atmospheric correction using FLAASH: Converting radiance data to reflectance
  - Lab exercise: Band stacking, spectral and spatial subsetting in ENVI
  - Lab exercise: Landsat 8 OLI atmospheric correction in FLAASH toolkit in ENVI

Week 4: Introduction to high resolution satellite data (WorldView and SPOT) and unsupervised
  classification
  - Introduction to WorldView image characteristics
  - Introduction to SPOT data and SPOT program history

Effective Fall 2013
Lab exercise: WorldView-2 image geometric and radiometric preprocessing in ENVI

Week 5: Introduction to hyperspectral imagery
- Hyperspectral data characteristics and acquisition
- Lab exercise: Airborne and terrestrial hyperspectral data processing and target spectra extraction in ENVI

Week 6: Supervised classification techniques
- Training data for supervised classification
- Supervised classification methods
- Lab exercise: Maximum likelihood and minimum distance classification techniques in ENVI using Landsat 8 OLI data

Week 7: Image classification accuracy assessment
- Introduction to accuracy assessment theory
- Ground truth data and high resolution imagery availability
- Lab exercise: Generating an error matrix in ENVI and ArcMap software using high resolution data

Week 8: Vegetation indices
- Introduction to band ratios
- Normalized Difference Vegetation Index (NDVI)
- Lab exercise: Estimating NDVI using Landsat data in ENVI and extracting spatially random samples for statistical analysis in Excel

Week 9: Introduction to coarse-resolution satellite data: MODIS and AVHRR
- Introduction to MODIS Terra and Aqua
- History of AVHRR and AVHRR data characteristics
- Lab exercise: Acquiring MODIS and AVHRR data from data archives (web-based) and subsetting and georeferencing MODIS imagery in ENVI

Week 10: Change detection methods
- Introduction to change detection theories and data requirements
- Change detection techniques in ENVI and time-series data analysis
- Lab exercise: Comparison of multitemporal data for change detection: Landsat images from northern Arizona over the last 3 decades

Week 11: Introduction to lidar and airborne lidar data analysis
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- Lab exercise: Visualization and analysis of airborne 3-dimensional point cloud data in BCAL toolkit in ENVI

Week 12: Terrestrial lidar data analysis
- Terrestrial laser scanner
- High-resolution 3-dimensional data
- Lab exercise: Visualization and analysis of terrestrial 3-dimensional point cloud data and generating high resolution DEM and vegetation map

Week 13: Unmanned aerial vehicles
- Unmanned aerial vehicle (UAV) characteristics
- UAV-based data options
- Lab exercise: Introduction to NAU UAV system and high-resolution hyperspectral and lidar data analysis using UAVs

Week 14: Individual research projects
Week 15: Individual research projects
Week 16: Term project presentations

Assessment of Student Learning Outcomes

Effective Fall 2013
• Student learning will be evaluated via letter grades throughout the semester. Student assignments will be submitted electronically to the instructor via BbLearn. Grades will be posted electronically in LOUIE and BbLearn.
• Reviews of research articles will be submitted and graded throughout the semester. Students are expected to complete a term project. Term project proposals will be due and graded by Week 10. Term project reports and presentation are due Week 16. The report and presentation grades will be posted at the end of Week 16.

Grading System
The grades will consist of:

10% - Critical review of remote sensing publication and methods
10% - Critical review of remote sensing publication and methods
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15% - Literature review for term project proposal
15% - Proposed methods for term project
30% - Term project report
10% - Term project presentation

90% = A, 80% = B, 70% = C, 60% = D, <60% = F

Course policy
• Attendance is mandatory. Students will need approval prior to class if they are not able to attend class
• Students are expected to perform all of their work independently. While term projects can overlap in topic or study area with shared data, each student is expected to perform their individual analysis and deliver an independent proposal, final report, and presentation.

UNIVERSITY POLICIES
Safe Working and Learning Environment Policy
NAU’s Safe Working and Learning Environment Policy seeks to prohibit discrimination and promote the safety of all individuals within the university. The goal of this policy is to prevent the occurrence of discrimination on the basis of sex, race, color, age, national origin, religion, sexual orientation, disability, or veteran status and to prevent sexual harassment, sexual assault or retaliation by anyone at this university. You may obtain a copy of this policy from the college dean’s office or from the NAU’s Affirmative Action website http://home.nau.edu/diversity/. If you have concerns about this policy, it is important that you contact the departmental chair, dean’s office, the Office of Student Life (928-523-5181), or NAU’s Office of Affirmative Action (928-523-3312).

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**Institutional Review Board**

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**Academic Integrity**

The university takes an extremely serious view of violations of academic integrity. As members of the academic community, NAU’s administration, faculty, staff and students are dedicated to promoting an atmosphere of honesty and are committed to maintaining the academic integrity essential to the education process. Inherent in this commitment is the belief that academic dishonesty in all forms violates the basic principles of integrity and impedes learning. Students are therefore responsible for conducting themselves in an academically honest manner.

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COURSE SYLLABUS
EES 529 / GSP 529
APPLIED REMOTE SENSING

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- EES 529/GSP 529 Applied Remote Sensing
- This course will be offered: Fall Semester
- 2.5 hours/week and 3 credit hours
- Instructor: Dr. Temuulen "Teki" Sankey
- Office address: ARD Building, Room 223, 1298 S. Knoles Drive, Flagstaff AZ 86011
- Office hours: M W 10am-Noon

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Effective Fall 2013
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Effective Fall 2013
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Effective Fall 2013
Please attach proposed Syllabus in approved university format.

1. Course subject and number: **EES 529**
2. Units: **3**

see upper and lower division undergraduate course definitions.

3. College: College of Engineering, Forestry, and Natural Sciences
4. Academic Unit: School of Earth Sciences and Environmental Sustainability

5. Student Learning Outcomes of the new course. *(Resources & Examples for Developing Course Learning Outcomes)*
   
   By the completion of this course, students will be able to:
   
   - Articulate principles and applications of satellite image analysis and 3-dimensional lidar data;
   - Conduct image acquisition, preprocessing techniques, and image analysis methods;
   - Apply ENVI software and independently perform satellite image analysis;
   - Critically review remote sensing publications and evaluate image processing techniques;
   - Write a project proposal with literature review.
   - Deliver an oral presentation focused on research in remote sensing, describing project objectives, methods, and results of their analysis.

6. Justification for new course, including how the course contributes to degree program outcomes, or other university requirements / student learning outcomes. *(Resources, Examples & Tools for Developing Effective Program Student Learning Outcomes)*

   A graduate level remote sensing course has not been offered at NAU for several years. Faculty who taught similar courses retired and their courses have not been updated. This new course has been designed to include satellite image analysis and digital interpretation methods in ENVI software. Computer-based digital image analysis is a major and new emphasis, which was not previously taught. A "pilot" course, GSP 599 Applied Remote Sensing, has been offered twice to determine the feasibility of, and demand for, this new course. Both times the demand exceeded the 15-student capacity. The course learning outcomes listed above are vital to graduate student degrees in geospatial sciences and related fields. The course focus is on contemporary technologies and software now relied upon within the remote sensing field. Finally, the Department of Geography, Planning & Recreation recently revived and redesigned an undergraduate-level remote sensing course (GSP 320) which is required for the new Geospatial Sciences emphasis within the Geographic Science & Community Planning degree. The GSP 320 is considered a potential "feeder" course to this co-convened graduate course, thereby providing a remote sensing course sequence for students intending to find employment within this field or related fields.

Effective Fall 2013
7. Effective BEGINNING of what term and year? Fall 2014
   See effective dates calendar.

8. Long course title: APPLIED REMOTE SENSING
   (max 100 characters including spaces)

9. Short course title: APPLIED REMOTE SENSING
   (max. 30 characters including spaces)

10. Catalog course description (max. 60 words, excluding requisites):
    This course will introduce the principles and applications of digital image analysis. Students
    will work with digital images from various satellite sensors and 3-dimensional lidar data in the
    latest edition of ENVI software. An individual term project will be required using the
    techniques learned in the course and via literature review.

11. Will this course be part of any plan (major, minor or certificate) or sub plan (emphasis)?
    Yes ☐ No ☑
    If yes, include the appropriate plan proposal.
    The course will be used as elective credit for the SESES Ph.D. and Geology M.S. No plan
    change proposal is necessary because the course won't be specifically named in the program
    of study.

12. Does this course duplicate content of existing courses? Yes ☐ No ☑
    If yes, list the courses with duplicate material. If the duplication is greater than 20%, explain why
    NAU should establish this course.

13. Will this course impact any other academic unit's enrollment or plan(s)? Yes ☐ No ☑
    If yes, describe the impact. If applicable, include evidence of notification to and/or response from
    each impacted academic unit.

14. Grading option: Letter grade ☑ Pass/Fail ☐ Both ☐

15. Co-convened with: 14a. UGC approval date*:
    (For example: ESE 450 and ESE 550) See co-convening policy.
    *Must be approved by UGC before UCC submission, and both course syllabi must be presented.

16. Cross-listed with: GSP 529
    (For example: ES 450 and DIS 450) See cross listing policy.
    Please submit a single cross-listed syllabus that will be used for all cross-listed courses.

17. May course be repeated for additional units? Yes ☐ No ☑
    16a. If yes, maximum units allowed? ______
    16b. If yes, may course be repeated for additional units in the same term? Yes ☐ No ☑

Effective Fall 2013
18. Prerequisites: None
   If prerequisites, include the rationale for the prerequisites.

19. Co requisites: None
   If co requisites, include the rationale for the co requisites.

20. Does this course include combined lecture and lab components? Yes ☐ No ☒
   If yes, include the units specific to each component in the course description above.
   Dr. Temuulen "Teki" Sankey,
   Dr. Erik Schiefer, Mr. Mark
   Manone

21. Names of the current faculty qualified to teach this course: ___________

22. Classes scheduled before the regular term begins and/or after the regular term ends may require additional action. Review “see description” and “see impacts” for “Classes Starting/Ending Outside Regular Term” under the heading “Forms” http://nau.edu/Registrar/Faculty-Resources/Schedule-of-Classes-Maintenance/.

   Do you anticipate this course will be scheduled outside the regular term? Yes ☐ No ☒

Answer 22-23 for UCC/ECCC only:

23. Is this course being proposed for Liberal Studies designation? Yes ☐ No ☒
   If yes, include a Liberal Studies proposal and syllabus with this proposal.

24. Is this course being proposed for Diversity designation? Yes ☐ No ☒
   If yes, include a Diversity proposal and syllabus with this proposal.

FLAGSTAFF MOUNTAIN CAMPUS

Scott Galland 2/4/2014
Reviewed by Curriculum Process Associate Date

Approvals:

Department Chair/Unit Head (if appropriate) Date

Chair of college curriculum committee Date

Dean of college Date

Effective Fall 2013
18. Prerequisites: None
   If prerequisites, include the rationale for the prerequisites.

19. Co requisites: None
   If co requisites, include the rationale for the co requisites.

20. Does this course include combined lecture and lab components? Yes [ ] No [x]
   If yes, include the units specific to each component in the course description above.

Dr. Temuulen "Teki" Sankey,
Dr. Erik Schiefer, Mr. Mark Manone

21. Names of the current faculty qualified to teach this course: Manone

22. Classes scheduled before the regular term begins and/or after the regular term ends may require additional action. Review "see description" and "see impacts" for "Classes Starting/Ending Outside Regular Term" under the heading "Forms"
http://nau.edu/Registrar/Faculty-Resources/Schedule-of-Classes-Maintenance/.

Do you anticipate this course will be scheduled outside the regular term? Yes [ ] No [x]

Answer 22-23 for UCC/ECCC only:

23. Is this course being proposed for Liberal Studies designation? Yes [ ] No [x]
   If yes, include a Liberal Studies proposal and syllabus with this proposal.

24. Is this course being proposed for Diversity designation? Yes [ ] No [x]
   If yes, include a Diversity proposal and syllabus with this proposal.

FLAGSTAFF MOUNTAIN CAMPUS

Scott Galland 12/5/2013
Reviewed by Curriculum Process Associate

Date

Approvals:

Department Chair/Unit Head (if appropriate) Date

[Signature]

Chair of college curriculum committee Date

[Signature]

Dean of college Date

[Signature]

Effective Fall 2013
18. Prerequisites:   None
   If prerequisites, include the rationale for the prerequisites.

19. Co requisites:    None
   If co requisites, include the rationale for the co requisites.

20. Does this course include combined lecture and lab components?   Yes ☐ No ☒
   If yes, include the units specific to each component in the course description above.
   Dr. Temuulen "TeKi" Sankey,
   Dr. Erik Schiefer, Mr. Mark Manone

21. Names of the current faculty qualified to teach this course:  ____________

22. Classes scheduled before the regular term begins and/or after the regular term ends may require additional action. Review "see description" and "see impacts" for "Classes Starting/Ending Outside Regular Term" under the heading "Forms"
   http://nau.edu/Registrar/Faculty-Resources/Schedule-of-Classes-Maintenance/.

   Do you anticipate this course will be scheduled outside the regular term? Yes ☐ No ☒

Answer 22-23 for UCC/ECCC only:

23. Is this course being proposed for Liberal Studies designation? Yes ☐ No ☐
   If yes, include a Liberal Studies proposal and syllabus with this proposal.

24. Is this course being proposed for Diversity designation? Yes ☐ No ☐
   If yes, include a Diversity proposal and syllabus with this proposal.

FLAGSTAFF MOUNTAIN CAMPUS

Scott Galland 12/5/2013
Reviewed by Curriculum Process Associate Date

Approvals:

Department Chair/Unit Head (if appropriate) 12-5-13
Date

Chair of college curriculum committee Date

Dean of college Date

Effective Fall 2013
For Committee use only:

2/12/14

UCC/UGC Approval

Approved as submitted: Yes ☐ No ☐

Approved as modified: Yes ☐ No ☐

**EXTENDED CAMPUSES**

Reviewed by Curriculum Process Associate Date

**Approvals:**

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<tr>
<td>Academic Unit Head</td>
<td>Date</td>
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<tr>
<td>Division Curriculum Committee (Yuma, Yavapai, or Personalized Learning)</td>
<td>Date</td>
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<tr>
<td>Division Administrator in Extended Campuses (Yuma, Yavapai, or Personalized Learning)</td>
<td>Date</td>
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<tr>
<td>Faculty Chair of Extended Campuses Curriculum Committee (Yuma, Yavapai, or Personalized Learning)</td>
<td>Date</td>
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<tr>
<td>Chief Academic Officer; Extended Campuses (or Designee)</td>
<td>Date</td>
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Approved as submitted: Yes ☐ No ☐

Approved as modified: Yes ☐ No ☐

Effective Fall 2013
COURSE SYLLABUS
EES 529 / GSP 529
APPLIED REMOTE SENSING

General Information
- College of Engineering, Forestry, and Natural Sciences, School of Earth Sciences and Environmental Sustainability/College of Social and Behavioral Sciences, Department of Geography, Recreation, and Planning
- EES 529/GSP 529 Applied Remote Sensing
- This course will be offered: Fall Semester
- 2.5 hours/week and 3 credit hours
- Instructor: Dr. Temuulen "Teki" Sankey
- Office address: ARD Building, Room 223, 1298 S. Knoles Drive, Flagstaff AZ 86011
- Office hours: M W 10am-Noon

Course prerequisites
There are no prerequisites for this course.

Course description
This course will introduce the principles and applications of digital image analysis. Students will work with various multispectral satellite images from different sensors, 3-dimensional lidar data, and airborne hyperspectral images in the latest edition of ENVI software. An individual term project will be required using the techniques learned in the course and via literature review.

Student Learning Expectations/Outcomes for this Course
By the completion of this course, students will be able to:
- Articulate principles and applications of satellite image analysis and 3-dimensional lidar data;
- Conduct image acquisition, preprocessing techniques, and image analysis methods;
- Applies ENVI software and independently perform satellite image analysis;
- Critically review remote sensing publications and evaluate image processing techniques;
- Write a project proposal with literature review;
- Deliver an oral presentation focused on research in remote sensing, describing project objectives, methods, and results of their analysis.

Students will complete a term project (topic and study area to be determined by students as they relate to their graduate research), in which they will retrieve satellite data from image archives and perform complete pre-processing and image analysis. Students will prepare a project proposal with literature reviews of up to 10 peer-reviewed publications. At the end of the semester, students will deliver a presentation and a term paper, in which they will describe the project objectives, methods, and results of their analysis.

Course structure/approach
The course will meet Mondays and Wednesdays 2:00-3:15 pm. Each class will have a lecture/presentation component, where a new image analysis topic will be introduced by the instructor. On some of the topics, guest lecturers will present their research and students will review research articles. Each lecture/presentation will be followed by a laboratory exercise, in which students will work with a dataset related to the topic and complete the analysis technique presented in the lecture. These in-class lab exercises are designed to provide real world examples of the image analysis applications presented. Students will then be able to choose the image and analysis techniques that best fit their research interest and term project. Two weeks of class time will be

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dedicated to their research and term projects to help students troubleshoot and interact individually with the instructor.

**Textbook and required materials**

There is no required textbook for this class. Reading materials for the course will mostly consist of peer-reviewed publications and 1-2 chapters of various remote sensing textbooks. All course material will be provided electronically via BbLearn. The following are examples of journal articles the students will read and discuss in class:


**Recommended optional materials/references (attach reading list)**


**Course outline**

Week 1: Introduction to digital remote sensing principles
- Energy sources and Radiation Principles
- Energy interactions in the atmosphere and Reflectance
- Introduction to ENVI: Getting to know ENVI software

Week 2: Landsat data and image acquisition
- History of Landsat Program
- Landsat data characteristics
- Lab exercise: Acquiring Landsat data from the Landsat archive (web-based) and Analysis of Landsat 5 TM satellite image and Landsat 8 OLI satellite image bands in ENVI

Week 3: Image preprocessing techniques and atmospheric correction
- Multispectral and multitemporal image bands
- Atmospheric correction using FLAASH: Converting radiance data to reflectance
- Lab exercise: Band stacking, spectral and spatial subsetting in ENVI
- Lab exercise: Landsat 8 OLI atmospheric correction in FLAASH toolkit in ENVI

Week 4: Introduction to high resolution satellite data (WorldView and SPOT) and unsupervised classification
- Introduction to WorldView image characteristics
- Introduction to SPOT data and SPOT program history
- Lab exercise: WorldView-2 image geometric and radiometric preprocessing in ENVI

Week 5: Introduction to hyperspectral imagery

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Hyperspectral data characteristics and acquisition
Lab exercise: Airborne and terrestrial hyperspectral data processing and target spectra extraction in ENVI

Week 6: Supervised classification techniques
- Training data for supervised classification
- Supervised classification methods
- Lab exercise: Maximum likelihood and minimum distance classification techniques in ENVI using Landsat 8 OLI data

Week 7: Image classification accuracy assessment
- Introduction to accuracy assessment theory
- Ground truth data and high resolution imagery availability
- Lab exercise: Generating an error matrix in ENVI and ArcMap software using high resolution data

Week 8: Vegetation indices
- Introduction to band ratios
- Normalized Difference Vegetation Index (NDVI)
- Lab exercise: Estimating NDVI using Landsat data in ENVI and extracting spatially random samples for statistical analysis in Excel

Week 9: Introduction to coarse-resolution satellite data: MODIS and AVHRR
- Introduction to MODIS Terra and Aqua
- History of AVHRR and AVHRR data characteristics
- Lab exercise: Acquiring MODIS and AVHRR data from data archives (web-based) and subsetting and georeferencing MODIS imagery in ENVI

Week 10: Change detection methods
- Introduction to change detection theories and data requirements
- Change detection techniques in ENVI and time-series data analysis
- Lab exercise: Comparison of multitemporal data for change detection: Landsat images from northern Arizona over the last 3 decades

Week 11: Introduction to lidar and airborne lidar data analysis
- Laser scan principles and laser data acquisition
- Three-dimensional point cloud
- Lab exercise: Visualization and analysis of airborne 3-dimensional point cloud data in BCAL toolkit in ENVI

Week 12: Terrestrial lidar data analysis
- Terrestrial laser scanner
- High-resolution 3-dimensional data
- Lab exercise: Visualization and analysis of terrestrial 3-dimensional point cloud data and generating high resolution DEM and vegetation map

Week 13: Unmanned aerial vehicles
- Unmanned aerial vehicle (UAV) characteristics
- UAV-based data options
- Lab exercise: Introduction to NAU UAV system and high-resolution hyperspectral and lidar data analysis using UAVs

Week 14: Individual research projects
Week 15: Individual research projects
Week 16: Term project presentations

Assessment of Student Learning Outcomes
- Student learning will be evaluated via letter grades throughout the semester. Student assignments will be submitted electronically to the instructor via BbLearn. Grades will be posted electronically in LOUIE and BbLearn.

Effective Fall 2013
• Reviews of research articles will be submitted and graded throughout the semester. Students are expected to complete a term project. Term project proposals will be due and graded by Week 10. Term project reports and presentation are due Week 16. The report and presentation grades will be posted at the end of Week 16.

Grading System
The grades will consist of:
- 10% - Critical review of remote sensing publication and methods
- 10% - Critical review of remote sensing publication and methods
- 10% - Critical review of remote sensing publication and methods
- 15% - Literature review for term project proposal
- 15% - Proposed methods for term project
- 30% - Term project report
- 10% - Term project presentation

90%=A, 80%=B, 70%=C, 60%=D, <60%=F

Course policy
• Attendance is mandatory. Students will need approval prior to class if they are not able to attend class
• Students are expected to perform all of their work independently. While term projects can overlap in topic or study area with shared data, each student is expected to perform their individual analysis and deliver an independent proposal, final report, and presentation.

UNIVERSITY POLICIES
Safe Working and Learning Environment Policy
NAU’s Safe Working and Learning Environment Policy seeks to prohibit discrimination and promote the safety of all individuals within the university. The goal of this policy is to prevent the occurrence of discrimination on the basis of sex, race, color, age, national origin, religion, sexual orientation, disability, or veteran status and to prevent sexual harassment, sexual assault or retaliation by anyone at this university. You may obtain a copy of this policy from the college dean’s office or from the NAU’s Affirmative Action website http://home.nau.edu/diversity/. If you have concerns about this policy, it is important that you contact the departmental chair, dean’s office, the Office of Student Life (928-523-5181), or NAU’s Office of Affirmative Action (928-523-3312).

Students with Disabilities
If you have a documented disability, you can arrange for accommodations by contacting Disability Resources (DR) at 523-8773 (voice) or 523-6906 (TTY), dr@nau.edu (e-mail) or 928-523-8747 (fax). Students needing academic accommodations are required to register with DR and provide required disability related documentation. Although you may request an accommodation at any time, in order for DR to best meet your individual needs, you are urged to register and submit necessary documentation (www.nau.edu/dr) 8 weeks prior to the time you wish to receive accommodations. DR is strongly committed to the needs of student with disabilities and the promotion of Universal Design. Concerns or questions related to the accessibility of programs and facilities at NAU may be brought to the attention of DR or the Office of Affirmative Action and Equal Opportunity (523-3312).

Institutional Review Board

Effective Fall 2013
Any study involving observation of or interaction with human subjects that originates at NAU—including a course project, report, or research paper—must be reviewed and approved by the Institutional Review Board (IRB) for the protection of human subjects in research and research-related activities. The IRB meets monthly. Proposals must be submitted for review at least fifteen working days before the monthly meeting. You should consult with your course instructor early in the course to ascertain if your project needs to be reviewed by the IRB and/or to secure information or appropriate forms and procedures for the IRB review. Your instructor and department chair or college dean must sign the application for approval by the IRB. The IRB categorizes projects into three levels depending on the nature of the project: exempt from further review, expedited review, or full board review. If the IRB certifies that a project is exempt from further review, you need not resubmit the project for continuing IRB review as long as there are no modifications in the exempted procedures. A copy of the IRB Policy and Procedures Manual is available in each department's administrative office and each college dean's office or on their website: http://www.research.nau.edu/vpr/IRB/index.htm. If you have questions, contact the IRB Coordinator in the Office of the Vice President for Research at 928-523-8288 or 523-4340.

**Academic Integrity**

The university takes an extremely serious view of violations of academic integrity. As members of the academic community, NAU’s administration, faculty, staff and students are dedicated to promoting an atmosphere of honesty and are committed to maintaining the academic integrity essential to the education process. Inherent in this commitment is the belief that academic dishonesty in all forms violates the basic principles of integrity and impedes learning. Students are therefore responsible for conducting themselves in an academically honest manner. Individual students and faculty members are responsible for identifying instances of academic dishonesty. Faculty members then recommend penalties to the department chair or college dean in keeping with the severity of the violation. The complete policy on academic integrity is in Appendix G of NAU’s Student Handbook http://www4.nau.edu/stulife/handbookdishonesty.htm.

**Academic Contact Hour Policy**

The Arizona Board of Regents Academic Contact Hour Policy (ABOR Handbook, 2-206, Academic Credit) states: “an hour of work is the equivalent of 50 minutes of class time…at least 15 contact hours of recitation, lecture, discussion, testing or evaluation, seminar, or colloquium as well as a minimum of 30 hours of student homework is required for each unit of credit.” The reasonable interpretation of this policy is that for every credit hour, a student should expect, on average, to do a minimum of two additional hours of work per week; e.g., preparation, homework, studying.

**Sensitive course materials**

University education aims to expand student understanding and awareness. Thus, it necessarily involves engagement with a wide range of information, ideas, and creative representations. In the course of college studies, students can expect to encounter—and critically appraise—materials that may differ from and perhaps challenge familiar understandings, ideas, and beliefs. Students are encouraged to discuss these matters with faculty.

Effective Fall 2013
1. Hosting College/Unit: College of Education

2. Hosting Department: Educational Specialties

3. Title of Graduate Academic Plan: Master in Career and Technical Education

4. Title of Undergraduate Academic Plan(s) Eligible for this Integrated Program:
   - Bachelor of Science in Career and Technical Education

5. Term and year when proposal becomes effective (i.e., Fall 2009): Fall 2014

6. Request Proposal is: New Change Deletion

7. Justification for proposal.
   a. Statement of educational objectives and structure for the integrated program: The objective of the accelerated program is to provide an alternative, efficient completion track for the Master's of Career and Technical Education degree to highly motivated students in the BSED CTE program. The accelerated program for this degree is designed to use up to 6 hours of 400- or 500-level courses from the BSED CTE program to meet part of the concentration requirement of the Master of Career and Technical Education.

   b. Statement of demonstrated need for the integrated program: Our BSED CTE degree is a 90/30 program. Students in this program are typically older, returning adult students and the only NAU courses they often complete are the 10 CTE courses required for the degree. Students are often completing the BSED as a stepping stone to a graduate degree. Currently only a small percentage of our Masters students come from our BSED program. Using the accelerated program as a tool to enroll more students in our Master's program could increase the number of students in our MED program. Additionally, it will allow the MED to be completed in a single year, providing both economic and time-related efficiencies.

   c. Number of credit hours permitted to satisfy both the baccalaureate and master's degree (maximum of six completed at NAU; 400 level or higher): Up to 6; can be any combination of CTE prefix 500-level coursework,
CTE431, and CTE486. These courses will be credited to the concentration area of the MED. For any co-convened classes that count for both degrees, you must take the 500-level option.

d. Cumulative GPA requirements for admission to the program (NAU GPA 3.25 minimum): 3.25

e. Undergraduate Academic Plan (i.e., Major) GPA requirements for admission to the program (3.5 for 12 hours or more completed at NAU):

3.5

f. Specific departmental requirements for students applying for admission to the Integrated program (see policy on admission requirements into Integrated Programs):

Submit an application for the accelerated Bachelor’s/Master’s program once you have completed 60 semester hours with at least a 3.25 GPA at least 24 hours of classes from NAU with a GPA of 3.25 with at least 12 hours of earned credits in the major from NAU with a GPA of 3.5. You will maintain undergraduate status (for tuition and financial aid purposes) while taking graduate classes until you receive your B.S. degree.

As this is a 90/30 program and students are often admitted in the BSED as Junior or Senior transfer students.

Transfer students only: Submit an application for the accelerated Bachelor’s/Master’s program upon approval of undergraduate admission into BSED CTE program with an overall cumulative transfer GPA of 3.25 and a GPA in transferred major courses of at least 3.5. You will be granted conditionally admission to the accelerated degree program. You will maintain undergraduate status (for tuition and financial aid purposes) while taking graduate classes until you receive your B.S. degree. Full acceptance into the graduate program will be granted upon receiving the BSED CTE degree.

g. Include or attach sample plan with information on degree progression, length of time to complete the program and indicate any core or required classes including those courses that will be considered to satisfy both the baccalaureate and master’s degree (if any): Sample plan is attached, however, please note that it is unusual for students to complete 120 hours of coursework at NAU in the BSED 90/30 program. Students typically complete only 30 hours of coursework at NAU; this is often combined with transcripted occupational experience and/or NOCTI test credit.
8. If this proposal requires additional faculty, space, or equipment, how will these requirements be satisfied? **No additional faculty, space or equipment is required.**

9. Will this proposal affect other programs, plans, curricula, or enrollment?  
[please underline]  **Yes**  **No**  
Letters of support from each unit affected must accompany this form.

10. Approvals

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<tr>
<th>Department/School</th>
<th>Chair/Director (where Graduate Program is Offered)</th>
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Dean of College/Unit (where Graduate Program is Offered)  | Date  
|                                                           | 1/10/14 |

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**UNIVERSITY GRADUATE COMMITTEE**

Approved:  
Chair, University Graduate Review Committee  | Date 

Approved:  
Dean, Graduate College  | Date  

2/12/14
51 hour emphasis (CTE, Industrial, and/or Technical courses or minor from related field). Any combination of 51 credits including coursework, NOCTI Exam, or Occupational Experience will meet Emphasis requirements. Most students complete Emphasis coursework at a 2-year college and transfer. Up to 90 hours of transfer credit allowed from 2-year or 4-year regionally accredited institutions.

### Freshman Year

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### Senior Year

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Revised 10/2009
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<tr>
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**Accelerated BSED CTE/MED CTE Program Information**

The purpose of an accelerated bachelor’s/master’s degree program is to provide motivated students an opportunity to combine undergraduate work with graduate work, thereby accelerating time to degree completion. Admission to the Accelerated Bachelor’s/Master’s program requires a GPA of 3.25 cumulative and 3.5 in your major; the GRE is not required.

- Submit an application for the accelerated Bachelor’s/Master’s program once you have completed 60 semester hours with at least a 3.25 GPA at least 24 hours of classes from NAU with a GPA of 3.25 with at least 12 hours of earned credits in the major from NAU with a GPA of 3.5. You will maintain undergraduate status (for tuition and financial aid purposes) while taking graduate classes until you receive your B.S. degree. Transfer students only: Submit an application for the accelerated Bachelor’s/Master’s program upon approval of undergraduate admission into BSED CTE program with an overall cumulative transfer GPA of 3.25 and a GPA in transferred major courses of at least 3.5. Transfer students will be eligible to receive conditional admission status into the accelerated program.
- Students must submit an undergraduate application for graduation (BSED) during the term before their expected graduation. Upon posting of your BSED degree, you will be granted full graduate status and will be eligible for Graduate Assistantships and other graduate financial awards.
- A minimum of 120 units are required for the BSED degree and 30 units for the MED. Up to 6 units can apply to both degrees.
- All coursework for the bachelor’s degree must maintain a minimum GPA of 3.25 cumulative; coursework credited to both degrees must be completed with a grade of B or higher.
- Your undergraduate courses that will be counted for both degrees (up to 6 units) may be any combination of and CTE prefix 500- level coursework, CTE431, and CTE486. These courses will be credited to the concentration area of the MED. For any co-convened classes that count for both degrees, you must take the 500-level option.

**General Information**

Revised 2/16/2009
• This degree progression plan is to be used in conjunction with the academic catalog and degree progress report.
• Students should contact an academic advisor regularly to confirm their academic progress.
• Be aware that courses are only offered once a year (fall only or spring only). Check with the department for current course rotation.
• Honors students complete different requirements to meet NAU’s liberal studies program. Students should consult an Honors Program advisor for complete information on fulfilling Honors Liberal Studies requirements.
• All students are required to complete at least 144 (120 + 24) total units which includes:
  o 35 units of liberal studies courses
  o 6 units of diversity courses (3 units in Global and 3 units in Ethnic). The diversity requirement may be fulfilled in any part of the program of study.
  o 30 units of upper division courses (300-400 level); 18 of these units must be taken at NAU but typically all 30 are taken at NAU to fulfill the CTE core requirements
  o At least 24 units of graduate level courses (500 or higher)

Contact Information

Educational Specialties
Building xx, Room xx
Department Chair: Laura Sujo-Montes
Phone: 928-523-0892
Email: laura.sujo-montes@nau.edu

Nicole Hampton
Assistant Clinical Professor/CTE Area Coordinator
Phone: 928-523-2560
Email: Nicole.Hampton@nau.edu
<table>
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<tr>
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If the changes included in this proposal are significant, attach copies of original and proposed syllabi in approved university format.

1. Course subject and number: **EPS 740**  
2. Units: **3**  
   See upper and lower division undergraduate course definitions.

3. College: **Education**  
4. Academic Unit: **Educational Psychology**

5. Current Student Learning Outcomes of the course.
   1. Students will develop and demonstrate the use of their personal model of counseling or the student will begin to develop expertise in a chosen area/approach to counseling.
   2. The class will provide an arena for discussing, demonstrating, and practicing new areas of competence for each student.
   3. Students will learn to utilize peer review as an evaluation and growth process.
   4. Students will learn ways of evaluating their own effectiveness.
   5. The student will take the risk of expanding their area of skill by trying new techniques and procedures.
   6. Students will become aware of how their own feelings and cognitions affect their delivery of counseling services.
   7. The student will refine hypothesis formation and problem identification skills.
   8. The student will learn to integrate formal evaluation methods into the counseling process.
   9. The student will learn theories and models of counseling supervision.
   10. The student will learn techniques for giving feedback to supervisors.
   11. The student will learn techniques for working with difficult supervisors.
   12. The student will demonstrate skill in performing supervision duties under the direction and supervision of the EPS 740 instructor.

Show the proposed changes in this column (if applicable). Bold the proposed changes in this column to differentiate from what is not changing, and Bold with strikethrough what is being deleted. *(Resources & Examples for Developing Course Learning Outcomes)*

**UNCHANGED**

Effective Fall 2012
6. **Current title, description and units.** Cut and paste, in its entirety, from the current on-line academic catalog* [http://catalog.nau.edu/Catalog/](http://catalog.nau.edu/Catalog/).

**EPS 740 DOCTORAL PRACTICUM AND SUPERVISION (3)**
Description: Doctoral-level practicum emphasizing advanced skills, educational and psychological assessment, and intervention strategies. 150 clock hours minimum experience. Models and theories of supervision will also be covered along with supervised practice in supervision of master’s level students. Pass-fail or letter grade. May be repeated for up to six units of credit. Course fee required.

Units: 3
Prerequisite: EPS 670, EPS 692, and EPS 737

---

Show the proposed changes in this column **Bold** the proposed changes in this column to differentiate from what is not changing, and **Bold with strikethrough** what is being deleted.

**EPS 740 DOCTORAL PRACTICUM AND IN COUNSELING PSYCHOLOGY AND SUPERVISION (3)**
Description: Doctoral-level practicum emphasizing advanced skills, educational and psychological assessment, and intervention strategies. 150 clock hours minimum experience. Models and theories of supervision will also be covered along with supervised practice in supervision of master’s level students. Pass-fail or letter grade. May be repeated for up to six units of credit. Course fee required.

Units: 3
Prerequisite: EPS 670, EPS 692, and EPS 737

---

*if there has been a previously approved UCC/UGC/ECCC change since the last catalog year, please copy the approved text from the proposal form into this field.

7. **Justification for course change.**
The requested name change for the course will better reflect the nature (objectives) of the course and include the specific focal area, i.e., Counseling Psychology. This new name will model the current course name for the EPS School Psychology program (EPS 741: Doctoral Practicum in School Psychology and Supervision).

8. Effective **BEGINNING** of what term and year? **Fall 2014**
*See effective dates calendar.*

**IN THE FOLLOWING SECTION, COMPLETE ONLY WHAT IS CHANGING**

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<tr>
<td>Current number of units:</td>
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<td>letter grade [ ] pass/fail [ ] or both [ ]</td>
<td>letter grade [ ] pass/fail [ ] or both [ ]</td>
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Effective Fall 2012
Current repeat for additional units:  
Proposed repeat for additional units:

Current max number of units:  
Proposed max number of units:

Current prerequisite:  
Proposed prerequisite (include rationale in the justification):

Current co-requisite:  
Proposed co-requisite (include rationale in the justification):

Current co-convene with:  
Proposed co-convene with:

Current cross list with:  
Proposed cross list with:

9.  Is this course in any plan (major, minor, or certificate) or sub plan (emphasis)? Yes ☒ No □  
If yes, describe the impact. If applicable, include evidence of notification to and/or response from each impacted academic unit.

Educational Psychology-Counseling Psychology; PhD

10. Is there a related plan or sub plan change proposal being submitted? Yes □ No ☒  
If no, explain.  
This course title change will not require a related plan change proposal.

11. Does this course include combined lecture and lab components? Yes □ No ☒  
If yes, include the units specific to each component in the course description above.

Answer 12-15 for UCC/ECCC only:

12. Is this course an approved Liberal Studies or Diversity course? Yes □ No □  
If yes, select all that apply.  
Liberal Studies ☒ Diversity ☒ Both □

13. Do you want to remove the Liberal Studies or Diversity designation? Yes □ No □  
If yes, select all that apply.  
Liberal Studies □ Diversity □ Both □

14. Is this course listed in the Course Equivalency Guide? Yes □ No □

15. Is this course a Shared Unique Numbering (SUN) course? Yes □ No □

FLAGSTAFF MOUNTAIN CAMPUS

Scott Galland 1/22/2014
Reviewed by Curriculum Process Associate Date

Effective Fall 2012
### Approvals:

<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Robert Horn</td>
<td>1-17-14</td>
</tr>
<tr>
<td>Department Chair/Unit Head (if appropriate)</td>
<td>Date</td>
</tr>
<tr>
<td>Chair of college curriculum committee</td>
<td>Date</td>
</tr>
<tr>
<td>Kathy Bohan</td>
<td>1-24-14</td>
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**For Committee use only:**

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### EXTENDED CAMPUSES

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<tr>
<td>Division Administrator in Extended Campuses (Yuma, Yavapai, or Personalized Learning)</td>
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<tr>
<td>Faculty Chair of Extended Campuses Curriculum Committee (Yuma, Yavapai, or Personalized Learning)</td>
<td>Date</td>
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<tr>
<td>Chief Academic Officer; Extended Campuses (or Designee)</td>
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<th>No □</th>
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Effective Fall 2012
FAST TRACK (Select if this will be a fast track item. Refer to Fast Track Policy for eligibility)

1. Course subject and number: CTE 560 (3 units) CTE 674 (3 units) 2. Units: 

3. College: Education 4. Academic Unit: Educational Specialties

5. Justification for course deletion. 
Course has not been offered in the past 5+ years.

6. Is this course in any plan (major, minor or certificate) or sub plan (emphasis or concentration)? Yes □ No □

   If yes, include a plan change proposal and evidence of notification to each impacted academic unit.

7. Effective at the END of what term and year? Summer 2014
See effective dates calendar.

8. Current catalog title: CTE 560 OCCUPATIONAL AND WORK-FORCE ANALYSIS CTE 674 NORTHERN ARIZONA WRITING PROJECT ADVANCED SEMINAR

9. Is this course currently cross listed? 
(For example: ES 450 and DIS 450)
   If yes, list course: CTE 674/ECI 674/ENG 674
   Was the impacted department notified? Yes □ No □
See attached notification to ECI and ENG

10. Is this course currently co-convened? 
(For example: ESE 450 and ESE 550)
   If yes, list course: 
   Was the impacted department notified? Yes □ No □

Effective Fall 2013
Answer 11-13 for UCC/ECCC only:

11. Is this course an approved Liberal Studies or Diversity course? Yes □ No □ Both □
   If yes, select all that apply. Liberal Studies □ Diversity □

12. Is this course listed in the Course Equivalency Guide? Yes □ No □

13. Is this course a Shared Unique Numbering (SUN) course? Yes □ No □

FLAGSTAFF MOUNTAIN CAMPUS

Scott Galland 01/21/2014
Reviewed by Curriculum Process Associate Date

Approvals:

Laura Sujo-Montes 02/03/14
Department Chair/Unit Head (if appropriate) Date

Chair of college curriculum committee Date

Kathy Bohan 02/12/14
Dean of college Date

For Committee use only:

UCC/UGC Approval Date

Approved as submitted: Yes □ No □
Approved as modified: Yes □ No □

EXTENDED CAMPUSES

Effective Fall 2013
Answer 11-13 for UCC/ECCC only:

11. Is this course an approved Liberal Studies or Diversity course?  
   If yes, select all that apply.  
   Liberal Studies □  Diversity □  Both □  
   Yes □  No □

12. Is this course listed in the Course Equivalency Guide?  
   Yes □  No □

13. Is this course a Shared Unique Numbering (SUN) course?  
   Yes □  No □

FLAGSTAFF MOUNTAIN CAMPUS

Scott Galland  
Reviewed by Curriculum Process Associate  
Date 01/21/2014

Approvals:

Department Chair/Unit Head (if appropriate)  
Date

Chair of college curriculum committee  
Date

Dean of college  
Date

For Committee use only:  
2/1/2014

UCC/UGC Approval  
Date

Approved as submitted:  
Yes □  No □

Approved as modified:  
Yes □  No □

EXTENDED CAMPUSSES

Effective Fall 2013
Reviewed by Curriculum Process Associate  

**Approvals:**

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Approved as submitted:  
Yes [ ]  No [ ]

Approved as modified:  
Yes [ ]  No [ ]

---

**From:** Stuart S Galland  
**Sent:** Friday, January 17, 2014 10:34 AM  
**To:** Pamela Jane Powell; John Gilbert Rothfork  
**Subject:** CTE 674

Hello,

This is to notify you that the Department of Educational Specialties is deleting CTE 674 because it has not been offered in over 5 years. The course is cross-listed with ECI 674 and ENG 674.

Thanks!

Scott Galland  
Curriculum Process Associate  
Office of Curriculum, Learning Design, and Academic Assessment  
928-523-1753  
928-699-9147 (cell)  
scott.galland@nau.edu

Effective Fall 2013
FAST TRACK  (Select if this will be a fast track item. Refer to Fast Track Policy for eligibility)

1. Course subject and number:  ESE 507  
2. Units:  1-3  

3. College:  Education  
4. Academic Unit:  Educational Specialties  

5. Justification for course deletion.
   Course has not been offered in the past 5+ years.

6. Is this course in any plan (major, minor or certificate) or sub plan (emphasis or concentration)?
   Yes  □  No  ☑
   If yes, include a plan change proposal and evidence of notification to each impacted academic unit.

7. Effective at the END of what term and year?  Summer 2014
   See effective dates calendar.

8. Current catalog title:  ESE 507  VOCATIONAL AND SOCIAL ASPECTS OF SPECIAL EDUCATION

9. Is this course currently cross listed?
   (For example: ES 450 and DIS 450)
   Yes  □  No  ☑
   If yes, list course:  
   Was the impacted department notified?
   Yes  □  No  ☑

10. Is this course currently co-convened?
    (For example: ESE 450 and ESE 550)
    Yes  □  No  ☑
    If yes, list course:  
    Was the impacted department notified?
    Yes  □  No  ☑

Answer 11-13 for UCC/ECCC only:

11. Is this course an approved Liberal Studies or Diversity course?
    Yes  □  No  ☑

Effective Fall 2013.
If yes, select all that apply. Liberal Studies ☐ Diversity ☐ Both ☐

12. Is this course listed in the Course Equivalency Guide? Yes ☐ No ☐

13. Is this course a Shared Unique Numbering (SUN) course? Yes ☐ No ☐

**FLAGSTAFF MOUNTAIN CAMPUS**

**Scott Galland**
Reviewed by Curriculum Process Associate
Date 01/17/2014

**Approvals:**

**Laura Sujo-Montes**
Department Chair/Unit Head (if appropriate)
Date 03/06/14

Chair of college curriculum committee
Date

**Kathy Bohan**
Dean of college
Date 03/06/14

**For Committee use only:**

UCC/UGC Approval
Date

Approved as submitted: Yes ☐ No ☐
Approved as modified: Yes ☐ No ☐

**EXTENDED CAMPUSES**

Reviewed by Curriculum Process Associate
Date

Effective Fall 2013
If yes, select all that apply. Liberal Studies ☐ Diversity ☐ Both ☐

12. Is this course listed in the Course Equivalency Guide? Yes ☐ No ☐

13. Is this course a Shared Unique Numbering (SUN) course? Yes ☐ No ☐

FLAGSTAFF MOUNTAIN CAMPUS

Scott Galland 01/17/2014
Reviewed by Curriculum Process Associate Date

Approvals:

Department Chair/Unit Head (if appropriate) Date

Chair of college curriculum committee Date

Dean of college Date

For Committee use only:

UCC/UGC Approval 2/12/14 Date

Approved as submitted: Yes ☐ No ☐

Approved as modified: Yes ☐ No ☐

EXTENDED CAMPUSES

Reviewed by Curriculum Process Associate Date

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<td>Date</td>
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</table>

| Approved as submitted: | Yes ☐  No ☐ |
| Approved as modified:  | Yes ☐  No ☐ |
**NORTHERN ARIZONA UNIVERSITY**

**UCC/UGC/ECCC**

Proposal for **Plan Change** or Plan Deletion

**FAST TRACK** (Select if this will be a fast track item. Refer to UCC or UGC Fast Track Policy for eligibility)

If this proposal represents changes to the intent of the plan or its integral components, review by the college dean, graduate dean (for graduate items) and/or the provost may be required prior to college curricular submission.

All Plans with NCATE designation, or plans seeking NCATE designation, must include an NCATE Accreditation Memo of Approval from the NAU NCATE administrator prior to college curricular submission.

**UCC proposals must include an updated 8-term plan.**

**UGC proposals must include an updated program of study.**

1. College: **Education**

2. Academic Unit: **Educational Leadership**

3. Academic Plan Name: **Educational Leadership-School Leadership; M.Ed. (EDLSLMED)**

4. Emphasis:

5. Plan proposal:

   - [X] Plan Change
   - [ ] New Emphasis
   - [ ] Emphasis Change
   - [ ] Plan Deletion
   - [ ] Emphasis Deletion

6. Current student learning outcomes of the plan. If structured as plan/emphasis, include for both core and emphasis.

   Upon completion of the plan, the student will be able to:

   Serve in leadership positions at the K-12 level which do not necessarily require State administrator certification. (examples may include, but are not limited to, teachers serving as a department chair of an academic unit, leading curriculum initiatives, working with school and community programs, etc.). Below are specific outcomes the student, once graduated, should meet:

   Show the proposed changes in this column (if applicable). **Bold** the changes, to differentiate from what is not changing, and change font to **Bold-Red** with strikethrough for what is being deleted. ([Resources, Examples & Tools for Developing Effective Program Student Learning Outcomes](#))

**UNCHANGED**
- Students understand and can collect and use data to identify school goals, assess organizational effectiveness, and implement plans to achieve school goals.
- Students understand and can sustain a school culture and instructional program conducive to student learning through collaboration, trust, and a personalized learning environment with high expectations for students.
- Students understand and can create and evaluate a comprehensive, rigorous, and coherent curricular and instructional school program.
- Students understand and can develop and supervise the instructional and leadership capacity of school staff.
- Students understand and can promote the most effective and appropriate technologies to support teaching and learning in a school environment.
- Students understand and can promote school-based policies and procedures that protect the welfare and safety of students and staff within the school.
- Students understand and can ensure teacher and organizational time focuses on supporting high-quality school instruction and student learning.
- Students understand and can collaborate with faculty and community members by collecting and analyzing information pertinent to the improvement of the school's educational environment.
- Students understand and can mobilize community resources by promoting an understanding, appreciation, and use of diverse cultural, social, and intellectual resources within the school community.
- Students understand and can respond to community interests and needs by building and sustaining positive school relationships with families and caregivers.
- Students understand and can respond to community interests and needs by building and sustaining productive school
relationships with community partners.

- Students understand and can act with integrity and fairness to ensure a school system of accountability for every student's academic and social success.
- Students understand and can model principles of self-awareness, reflective practice, transparency, and ethical behavior as related to their roles within the school.
- Students understand and can safeguard the values of democracy, equity, and diversity within the school.
- Students understand and can evaluate the potential moral and legal consequences of decision making in the school.
- Students understand and can promote social justice within the school to ensure that individual student needs inform all aspects of schooling.
- Students understand and can anticipate and assess emerging trends and initiatives in order to adapt school-based leadership strategies.
- Students will further their skills and knowledge base per the area of "specialization" they select.
7. Current catalog plan overview and requirements in this column. Cut and paste the Overview and Details tabs, in their entirety, from the current on-line academic catalog: (http://catalog.nau.edu/Catalog/)

**Educational Leadership-School Leadership; M.Ed.**

In addition to University Requirements:

- Complete individual plan requirements.

<table>
<thead>
<tr>
<th>Minimum Units for Completion</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional Admission Requirements</td>
<td>Admission requirements over and above admission to NAU are required.</td>
</tr>
<tr>
<td>Program of Study</td>
<td>View Program of Study</td>
</tr>
</tbody>
</table>

**Additional Admission Requirements**

Admission requirements over and above admission to NAU are required.

- NAU Graduate Online application required (www.nau.edu/graduateapply) for all programs. Details on admission requirements are included in the online application.
- Undergraduate degree from a regionally accredited institution
- Grade Point Average (GPA) of 3.00 (scale is 4.00 = "A"), or the equivalent.
- Admission to many graduate programs is on a competitive basis, and programs may have higher standards than those established by the Graduate College.
- Transcripts
- For details on graduate admission policies, please visit http://nau.edu/GradCol/Admissions/Graduate-Admissions-Policy/.
- International applicants have additional admission requirements: http://nau.edu/GradCol/Admissions/International/.

Individual program admission requirements include:

- Program of study signed by applicant and advisor

**Master's Requirements**

Show the proposed changes in this column. **Bold** the changes, to differentiate from what is not changing, and change font to **Bold Red** with strikethrough for what is being deleted.

**Educational Leadership-Instructional Leadership K12 School Leadership; M.Ed.**

In addition to University Requirements:

- Complete individual plan requirements.

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- Transcripts
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- International applicants have additional admission requirements: http://nau.edu/GradCol/Admissions/International/.

Individual program admission requirements include:

- Program of study signed by applicant and advisor

**Master's Requirements**
Take the following 30 units:
- EDL 600, EDL 625, EDL 635, EDL 680 (12 units)
- EDR 610 (3 units)
Select one course from (3 units):
- EDL 622
- EDF 630
Select one course from (3 units):
- EDL 623
- EDF 670, EDF 671, EDF 677
Specialization Electives (9 units):
- Three 600-level electives from your area of specialization. Advisor and department approval required.

Be aware that some courses may have prerequisites that you must also take. For prerequisite information click on the course or see your advisor.

Take the following 30 units:
- EDL 600, EDL 625, EDL 635, EDL 680 (12 units)
- EDR 610 (3 units)
Select one course from (3 units):
- EDL 622
- EDF 630
Select one course from (3 units):
- EDL 623
- EDF 670, EDF 671, EDF 677
Specialization Electives (9 units):
- Three 600-level electives from your area of specialization. Advisor and department approval required.

Be aware that some courses may have prerequisites that you must also take. For prerequisite information click on the course or see your advisor.

8. Justification for proposal:
The plan name was supposed to change along with the previous requirements changes.

9. NCATE designation, if applicable:  This plan is not NCATE Accredited
   □ Initial Plan  □ Advanced Plan  □ Remove Designation

10. Effective beginning Fall:  Fall 2014
    See effective dates calendar.

11. Will this proposal impact other plans, sub plans, or course offerings, etc.?  Yes  No
    If yes, describe the impact and include a letter of response from each impacted academic unit.

Answer 12-13 for UCC/ECCC only:

12. A major is differentiated from another major by required course commonality: 24 units of the required credit hours of a major must be unique, (i.e. not common or not dual use as a required element in another major), to that major. Does this plan have 24 units of unique required credit?  Yes  No

13. Minor: A planned group of courses from one or more subject matter areas consisting of at least 18 hours and no more than 24 hours. At least 12 hours of the minor must be unique to that minor to differentiate it from other minors. Does this minor have 12 units of unique required credit?  Yes  No
Answer 14-15 for UGC only:

14. If this is a non-thesis plan, does it require a minimum of 24 units of formal graded coursework?  
   Yes ☒  No ☐  
   If no, explain why this proposal should be approved.

15. If this is a thesis plan, does it require a minimum of 18 units of formal graded coursework?  
   Yes ☐  No ☐  
   If no, explain why this proposal should be approved.

FLAGSTAFF MOUNTAIN CAMPUS

Scott Galland  1/16/2014  
Reviewed by Curriculum Process Associate     Date

Approvals:

Michael Sotirakopoulos  1-16-14

Department Chair/Unit Head (if appropriate)     Date

Chair of college curriculum committee     Date

Kathy Behan  1-16-14  
Dean of college     Date

For Committee use only:

UCC/UGC Approval     Date

Approved as submitted:  Yes ☐  No ☐

Approved as modified:  Yes ☐  No ☐

EXTENDED CAMPUSES

Reviewed by Curriculum Process Associate     Date

Approvals:
<table>
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<tr>
<td>Chief Academic Officer; Extended Campuses (or Designee)</td>
<td></td>
</tr>
</tbody>
</table>

Approved as submitted: Yes □ No □

Approved as modified: Yes □ No □
NORTHERN ARIZONA UNIVERSITY

Master of Education in Educational Leadership: Instructional Leadership K12 School Leadership

Department of Educational Leadership

PROGRAM OF STUDY (2014-15)

Student's Name: _____
NAU ID: _____

E-mail Address: _____@nau.edu
Phone Number: _____


Advisor: ____________
Adviser Site: ____________
Adviser Phone: ____________

Total Required Credits for this Degree Program: 30

This is the: [ ] Initial (upon admission) [ ] Final (submitted with Graduation Application) Program of Study

Check Statement Below (if applicable)
[ ] This Program of Study dated _____ replaces and supersedes any previously-submitted EDL POS or emphasis.

<table>
<thead>
<tr>
<th>*</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Replacement Course</th>
<th>Semester</th>
<th>Year</th>
<th>Hours</th>
<th>Grade</th>
<th>T/E/P**</th>
</tr>
</thead>
<tbody>
<tr>
<td>**</td>
<td>EDR 610</td>
<td>Introduction to Research</td>
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<tr>
<td>*</td>
<td>EDF 630</td>
<td>Foundations of Educational Law</td>
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<td></td>
</tr>
<tr>
<td>*</td>
<td>EDL 622</td>
<td>Legal Aspects of School Administration</td>
<td></td>
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<tr>
<td>*</td>
<td>EDF 670</td>
<td>Philosophy of Education</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>EDF 671</td>
<td>History of American Education</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>EDF 677</td>
<td>Educational Sociology</td>
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<td></td>
</tr>
<tr>
<td>*</td>
<td>EDF 623</td>
<td>Publicity and Politics of Education</td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>*</td>
<td>EDF 623</td>
<td>Other Comparable Foundations Course</td>
<td>(with advisor and departmental approval)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

II. Leadership Skill Development (12 hours required): The courses below must be taken sequentially.

| * | EDL 600 | Leadership Skills                              |                    |          |      |       |       |        |
| * | EDL 625 | Supervision of Instruction                     |                    |          |      |       |       |        |
| * | EDL 635 | School Finance                                  |                    |          |      |       |       |        |
| * | EDL 680 | Masters Seminar (Culminating Experience)       |                    |          |      |       |       |        |

*Required

Revised: 12/13
III. Specialization Electives (9 hours required)*: Three elective courses from the student's area of specialization. The Education Specialization classes must be 600-level or higher NAU Education course, unless you have prior written approval from the EDL department chair.

- Principal Certification: Requires 15 hours
  - EDL 623
  - EDL 627
  - EDL 629
  - EDL 662
  - EDL 696

- National Board Certification

- Highly Qualified Teacher

- Specialization Courses from outside or inside Education but related to student's area of specialization (Advisor and Department Approval REQUIRED)

Students: Secure your advisor's signature and the advisor will submit this form to the EDL department office in Mesa. You must complete all requirements for the M.Ed. within a six-year period and apply for graduation the semester before you plan to graduate. If you miss three or more consecutive regular semesters, you may need to reapply for admission to the Graduate College and to the EDL department.

Student's Signature: ___________________________ Date: __________

Advisor's Signature: ___________________________ Date: __________

Chair's Signature: ___________________________ Date: __________

**Transfer/Equivalent/Previous Graduate Degree

| Transfer | T = Course transferred from another university |
| Previous Graduate Degree | P = Course taken at NAU from previous graduate degree |
| Equivalent | E = Course taken at NAU in place of required course. Must have Advisor approval. |

Transfer Credit Example:

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Course Title</th>
<th>Replacement Course</th>
<th>Semester</th>
<th>Year</th>
<th>Hours</th>
<th>Grade</th>
<th>T/E/P++</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC 123</td>
<td>Fundamentals of English</td>
<td>ASU 456</td>
<td>Fall</td>
<td>2012</td>
<td>3</td>
<td>A</td>
<td>T/ASU</td>
</tr>
</tbody>
</table>

*Required

Educational Leadership: Educational Leadership K12 School Leadership— Revised: 12/13

Program of Study – Page 2
# Proposal for Course Change

**FAST TRACK** *(Select if this will be a fast track item. Refer to Fast Track Policy for eligibility)*

*If the changes included in this proposal are significant, attach copies of original and proposed syllabi in approved university format.*

1. **Course subject and number:** FOR 593  
   2. **Units:** 3

   **See upper and lower division undergraduate course definitions.**

3. **College:** CEFNS  
4. **Academic Unit:** Forestry

---

5. **Current Student Learning Outcomes of the course.**

   **Course Objectives:**
   Using simple algebra, a basic understanding of microeconomic theory and the concepts of the economics of natural resource systems, this course equips students with the skills and abilities to understand why resource decisions are made and how they can be improved upon in order to achieve the desired balance between utilization and conservation.

   1. The student will learn economic theory and environmental and natural resource issues.
   2. The student will learn the tools and techniques to understand and analyze resource decisions, and help them design practical policy solutions.
   3. The student will understand topics on the economics of sustainability and identifies the interactions between economy, community and environment over the long-term as the subject of sustainability and sustainable development emerges and future environmental policy options are needed for a more sustainable society.
   4. The student will learn the skills to work in an interdisciplinary fashion and develop effective public policy with other economists.

---

**Show the proposed changes in this column (if applicable). Bold the proposed changes in this column to differentiate from what is not changing, and Bold with strikethrough what is being deleted. (Resources & Examples for Developing Course Learning Outcomes)**

---

**UNCHANGED**

---

**Effective Fall 2013**
scientists and land managers.

6. **Current title, description and units.** Cut and paste, in its entirety, from the current on-line academic catalog*

**FOR 593 NATURAL RESOURCE ECONOMICS (3)**
Description: Application of advanced methods in analyzing multi-resource forest economics problems. Co-convenes with FOR 493. Letter grade only.

Units: 3
Prerequisite: ECO 284 or ECO 284H

**FOR 593 NATURAL RESOURCE ECONOMICS (3)**
Description: Application of advanced methods in analyzing multi-resource forest economics problems. Co-convenes with FOR 493. Letter grade only.

Units: 3
Prerequisite: ECO 284 or ECO 284H or ECO 280

*if there has been a previously approved UCC/UGC/ECCC change since the last catalog year, please copy the approved text from the proposal form into this field.

7. Justification for course change.

**Students in FOR 493/593 need a general introduction to economics prior to taking this course, but do not necessarily need a full course in microeconomics (i.e., ECO 284/284H). ECO 280 is a relatively new course that is designed as a general introduction to economics and it has been promoted as a good course for non-economics majors, so it is a viable alternative to ECO 284/284H. However, we would like to also retain ECO 284/284H as an option since it has proven to be adequate as a pre-requisite in the past and because it offers our students additional flexibility.**

8. **Effective BEGINNING of what term and year?** See effective dates calendar.

**Fall 2014**

**IN THE FOLLOWING SECTION, COMPLETE ONLY WHAT IS CHANGING**

<table>
<thead>
<tr>
<th>CURRENT</th>
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</tr>
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<tbody>
<tr>
<td>Current course subject and number:</td>
<td>Proposed course subject and number:</td>
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<td>Current grading option:</td>
<td>Proposed grading option:</td>
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Effective Fall 2013
<table>
<thead>
<tr>
<th>Current repeat for additional units:</th>
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<tr>
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<tr>
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</tr>
<tr>
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</tr>
<tr>
<td>Current co-convene with:</td>
<td>Proposed co-convene with:</td>
</tr>
<tr>
<td>Current cross list with:</td>
<td>Proposed cross list with:</td>
</tr>
</tbody>
</table>

9. Is this course in any plan (major, minor, or certificate) or sub plan (emphasis)? Yes ☒ No ☐
   If yes, describe the impact. If applicable, include evidence of notification to and/or response from each impacted academic unit.

Climate Science & Solutions M.S., Environmental Sciences and Policy (elective), Conservation Biology UCRT (elective), Forestry MF (elective), Forest Science PhD (elective)

10. Is there a related plan or sub plan change proposal being submitted? Yes ☒ No ☐
    If no, explain.

The course is pending removal from the Climate Science & Solutions MS.

11. Does this course include combined lecture and lab components? Yes ☐ No ☒
    If yes, include the units specific to each component in the course description above.

Answer 12-15 for UCC/ECCC only:

12. Is this course an approved Liberal Studies or Diversity course? Yes ☐ No ☒
    If yes, select all that apply. Liberal Studies ☐ Diversity ☐ Both ☒

13. Do you want to remove the Liberal Studies or Diversity designation? Yes ☐ No ☒
    If yes, select all that apply. Liberal Studies ☐ Diversity ☐ Both ☒

14. Is this course listed in the Course Equivalency Guide? Yes ☐ No ☒

15. Is this course a Shared Unique Numbering (SUN) course? Yes ☐ No ☒

FLAGSTAFF MOUNTAIN CAMPUS

Scott Galland 2/3/2014

Effective Fall 2013
### EXTENDED CAMPUS

<table>
<thead>
<tr>
<th>Role</th>
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<tbody>
<tr>
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<td></td>
</tr>
<tr>
<td>Approvals:</td>
<td></td>
</tr>
<tr>
<td>Academic Unit Head</td>
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Approved as submitted: Yes [ ] No [ ]

Approved as modified: Yes [ ] No [ ]
FAST TRACK  (Select if this will be a fast track item. Refer to Fast Track Policy for eligibility)

If the changes included in this proposal are significant, attach copies of original and proposed syllabi in approved university format.

1. Course subject and number: FOR 493
2. Units: 3

See upper and lower division undergraduate course definitions.

3. College: CEFNS
4. Academic Unit: Forestry

<table>
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Show the proposed changes in this column (if applicable). Bold the proposed changes in this column to differentiate from what is not changing, and Bold with strikethrough what is being deleted. *(Resources & Examples for Developing Course Learning Outcomes)*

UNCHANGED

Effective Fall 2013
effective public policy with other economists, scientists and land managers.

6. Current title, description and units. Cut and paste, in its entirety, from the current on-line academic catalog*  

FOR 493 NATURAL RESOURCE ECONOMICS (3)  
Description: Application of economic theories to explore the current issues in natural resource management. Emphasis is on developing one's own point of view in applying economic principles to natural resource management. Co-convenes with FOR 593. Letter grade only.  

Units: 3  
Prerequisite: ECO 284 or ECO 284H

Show the proposed changes in this column **Bold** the proposed changes in this column to differentiate from what is not changing, and **Bold with strikethrough** what is being deleted.  

FOR 493 NATURAL RESOURCE ECONOMICS (3)  
Description: Application of economic theories to explore the current issues in natural resource management. Emphasis is on developing one's own point of view in applying economic principles to natural resource management. Co-convenes with FOR 593. Letter grade only.  

Units: 3  
Prerequisite: ECO 284 or ECO 284H or **ECO 280**

*if there has been a previously approved UCC/UGC/ECCC change since the last catalog year, please copy the approved text from the proposal form into this field.

7. Justification for course change.  
**Students in FOR 493/593 need a general introduction to economics prior to taking this course, but do not necessarily need a full course in microeconomics (i.e., ECO 284/284H). ECO 280 is a relatively new course that is designed as a general introduction to economics and it has been promoted as a good course for non-economics majors, so it is a viable alternative to ECO 284/284H. However, we would like to also retain ECO 284/284H as an option since it has proven to be adequate as a pre-requisite in the past and because it offers our students additional flexibility.**

8. Effective BEGINNING of what term and year?  
**See effective dates calendar.**  

**Fall 2014**

IN THE FOLLOWING SECTION, COMPLETE ONLY WHAT IS CHANGING

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Effective Fall 2013
Current grading option: letter grade ☐ pass/fail ☐ or both ☐
Current repeat for additional units:
Current max number of units:
Current prerequisite: ECO 284 or ECO 284H
Current co-requisite:
Current co-convene with:
Current cross list with:

Proposed grading option: letter grade ☐ pass/fail ☐ or both ☐
Proposed repeat for additional units:
Proposed max number of units:
Proposed prerequisite (include rationale in the justification): ECO 284 or ECO 284H or ECO 280
Proposed co-requisite (include rationale in the justification):
Proposed co-convene with:
Proposed cross list with:

9. Is this course in any plan (major, minor, or certificate) or sub plan (emphasis)? Yes ☒ No ☐
   If yes, describe the impact. If applicable, include evidence of notification to and/or response from each impacted academic unit.

Environmental Studies BA/BS (elective), American Political Studies BS (elective)

10. Is there a related plan or sub plan change proposal being submitted? Yes ☐ No ☒
    If no, explain.
    The proposed prerequisite change will not require any related plan change.

11. Does this course include combined lecture and lab components? Yes ☐ No ☒
    If yes, include the units specific to each component in the course description above.

Answer 12-15 for UCC/ECCC only:

12. Is this course an approved Liberal Studies or Diversity course? Yes ☐ No ☒
    If yes, select all that apply. Liberal Studies ☐ Diversity ☐ Both ☐

13. Do you want to remove the Liberal Studies or Diversity designation? Yes ☐ No ☒
    If yes, select all that apply. Liberal Studies ☐ Diversity ☐ Both ☐

14. Is this course listed in the Course Equivalency Guide? Yes ☐ No ☒

15. Is this course a Shared Unique Numbering (SUN) course? Yes ☐ No ☒

FLAGSTAFF MOUNTAIN CAMPUS

Effective Fall 2013
### Scott Galland

Reviewed by Curriculum Process Associate

**Approvals:**

**James A. Allen**
Department Chair/Unit Head (if appropriate)

Date

Chair of college curriculum committee

Date

Dean of college

Date

**For Committee use only:**

UCC/UGC Approval

Date

Approved as submitted:  
Yes ☐  
No ☐

Approved as modified:

Yes ☐  
No ☐

---

### EXTENDED CAMPUSES

Reviewed by Curriculum Process Associate

**Approvals:**

Academic Unit Head

Date

Division Curriculum Committee (Yuma, Yavapai, or Personalized Learning)

Date

Division Administrator in Extended Campuses (Yuma, Yavapai, or Personalized Learning)

Date

Faculty Chair of Extended Campuses Curriculum Committee (Yuma, Yavapai, or Personalized Learning)

Date

Chief Academic Officer; Extended Campuses (or Designee)

Date

Approved as submitted:  
Yes ☐  
No ☐

Approved as modified:

Yes ☐  
No ☐

Effective Fall 2013
**Proposal for Course Change**

**FAST TRACK** *(Select if this will be a fast track item. Refer to Fast Track Policy for eligibility)*

*If the changes included in this proposal are significant, attach copies of original and proposed syllabi in approved university format.*

1. **Course subject and number:** GLG 615  
2. **Units:** 4  
   *See upper and lower division undergraduate course definitions.*

3. **College:** CEFNS  
4. **Academic Unit:** SESES

| 5. Current Student Learning Outcomes of the course. | Show the proposed changes in this column (if applicable). Bold the proposed changes in this column to differentiate from what is not changing, and Bold with strikethrough what is being deleted. *(Resources & Examples for Developing Course Learning Outcomes)* Students will learn how to do each of the following:  
- Construct chemographic projections and petrogenetic grids  
- Interpret mineral assemblages to determine pressure and temperature from petrogenetic grids  
- Use the petrographic microscope to determine mineral assemblages and modes, and to infer mineral reactions.  
- Calculate pressures and temperatures from mineral chemistry using chemical thermodynamics, including ideal and non-ideal activity models  
- Calculation of isochemical plots to determine pressures and temperatures.  
- Calculation of pressure-temperature paths using the Gibbs method based on Duhem's theorem  
- Interpret metamorphism in a tectonic context |

---

Effective Fall 2013
6. **Current title, description and units.** Cut and paste, in its entirety, from the current on-line academic catalog*  

**GLG 615 METAMORPHIC PETROLOGY (4)**  
Description: Analysis of metamorphic rocks and advanced studies in thin sections, emphasizing quantitative methods. 3 hrs. lecture, 3 hrs. lab. Letter grade only. Course fee required.  
Units: 4  

Show the proposed changes in this column **Bold** the proposed changes in this column to differentiate from what is not changing, and **Bold** with strikethrough what is being deleted.  

**GLG 615 METAMORPHIC PETROLOGY (4)**  
Description: Analysis of metamorphic rocks and advanced studies in thin sections, emphasizing quantitative methods. 3 2 hrs. lecture, 3 hrs. lab. Letter grade only. Course fee required.  
Units: 4 3  

*if there has been a previously approved UCC/UGC/ECCC change since the last catalog year, please copy the approved text from the proposal form into this field.  

7. **Justification for course change.**  
The course content is not changing but is being abbreviated. The course content is being updated and consolidated.  

8. **Effective BEGINNING of what term and year?**  
**Fall 2014**  

**IN THE FOLLOWING SECTION, COMPLETE ONLY WHAT IS CHANGING**  

<table>
<thead>
<tr>
<th>CURRENT</th>
<th>PROPOSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current course subject and number:</td>
<td>Proposed course subject and number:</td>
</tr>
<tr>
<td>Current number of units: 4</td>
<td>Proposed number of units: 3</td>
</tr>
<tr>
<td>Current short course title:</td>
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<tr>
<td>Current long course title:</td>
<td>Proposed long course title (max 100 characters):</td>
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<tr>
<td>Current grading option: letter grade [pass/fail] [or both]</td>
<td>Proposed grading option: letter grade [pass/fail] [or both]</td>
</tr>
<tr>
<td>Current repeat for additional units:</td>
<td>Proposed repeat for additional units:</td>
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<tr>
<td>Current max number of units:</td>
<td>Proposed max number of units:</td>
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<tr>
<td>Current prerequisite:</td>
<td>Proposed prerequisite (include rationale in the justification):</td>
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<tr>
<td>Current co-requisite:</td>
<td>Proposed co-requisite (include rationale in the justification):</td>
</tr>
<tr>
<td>Current co-convene with:</td>
<td>Proposed co-convene with:</td>
</tr>
<tr>
<td>Current cross list with:</td>
<td>Proposed cross list with:</td>
</tr>
</tbody>
</table>

Effective Fall 2013
9. Is this course in any plan (major, minor, or certificate) or sub plan (emphasis)? Yes ☒ No ☐
   If yes, describe the impact. If applicable, include evidence of notification to and/or response
   from each impacted academic unit.

Earth Sciences and Environmental Sustainability PhD (elective)

10. Is there a related plan or sub plan change proposal being submitted? Yes ☐ No ☒
    If no, explain.

    This unit change will not require a related plan change.

11. Does this course include combined lecture and lab components? Yes ☒ No ☐
    If yes, include the units specific to each component in the course description above.

Answer 12-15 for UCC/ECCC only:

12. Is this course an approved Liberal Studies or Diversity course? Yes ☐ No ☒
    If yes, select all that apply. Liberal Studies ☐ Diversity ☒ Both ☐

13. Do you want to remove the Liberal Studies or Diversity designation? Yes ☐ No ☒
    If yes, select all that apply. Liberal Studies ☐ Diversity ☒ Both ☐

14. Is this course listed in the Course Equivalency Guide? Yes ☐ No ☒

15. Is this course a Shared Unique Numbering (SUN) course? Yes ☐ No ☒

FLAGSTAFF MOUNTAIN CAMPUS

Scott Galland 1/10/2014
Reviewed by Curriculum Process Associate

Approvals:
Paul Umhoefer 01/08/2014
Department Chair/Unit Head (if appropriate)

Chair of college curriculum committee
Dean of college

For Committee use only:

Effective Fall 2013
9. Is this course in any plan (major, minor, or certificate) or sub plan (emphasis)? Yes ☒ No ☐
   If yes, describe the impact. If applicable, include evidence of notification to and/or response
   from each impacted academic unit.

Earth Sciences and Environmental Sustainability PhD (elective)

10. Is there a related plan or sub plan change proposal being submitted? Yes ☐ No ☒
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---

**FLAGSTAFF MOUNTAIN CAMPUS**

**Scott Galland**
Reviewed by Curriculum Process Associate

**Date** 1/10/2014

**Approvals:**

Department Chair/Unit Head (if appropriate)

Date

Chair of college curriculum committee

Date

Dean of college

Date

**For Committee use only:**

2/12/14

Effective Fall 2013
From: Paul Umhoefer
Sent: Wednesday, January 08, 2014 3:53 PM
To: Stuart S Galland
Cc: Thomas David Holisch
Subject: FW: changes credits in a class - GLG615

Scott - I have looked these over and understand the changes. Can you move forward with these documents?

Paul

Paul Umhoefer
Director and Professor of Geology
School of Earth Sciences & Environmental Sustainability
625 S. Knoles Drive
Flagstaff, AZ 86011-0001
928-523-1637 (Director office - call first)
928-523-6464 (research office)
Metamorphic Petrology GLG615, Fall 2007

Instructor: Thomas D. Hoiisch
Classroom: Building 12, rm 109
Lab: Building 12, rm 108B
Office hours: tba
Office: Building 12, rm 227
Clock: 3 hours lecture and 3 hours lab per week
Credit hours: 4
Phone number: 523-1904
E-mail: thomas.hoiisch@nau.edu
Scheduled class time: TTH 9:35-10:50
Scheduled lab time: TH 2:30-5:30
Final exam: Tuesday, Dec. 11, 7:30am, or possibly a take-home exam.

Required text:

Recommended texts:

Course Description
This course covers the theoretical and practical aspects of the study of metamorphic rocks. Subjects to be covered include chemical projections, Schreinemakers analysis, petrogenetic grids, continuous and discontinuous reactions, progressive metamorphism in common bulk compositions, introduction to numerical thermal modeling, introduction to thermochronology, fluid inclusions, and the application of metamorphic petrology to tectonic problems.

Method of Evaluation
Midterm 20%
Comprehensive lecture final 20%
Lab exercises 30%
Problem sets 30%

Exams will cover material presented in class and in the text. Students who must miss an exam may schedule an alternative date provided arrangements are made prior to the scheduled date. Students absent unexpectedly from an exam must present an excuse documenting a situation beyond their control, upon which arrangements will be made to schedule an alternative exam. Individuals with excused absences from the final exam will receive an incomplete until an alternate final exam is taken.

Effective Fall 2013
Methods of Instruction
1. All students must be concurrently enrolled in both GLG615 and GLG615L
2. Students are required to attend lectures. Students will be responsible for material covered in lectures, even if not also covered in the reading. Students who must miss lectures have the responsibility of obtaining lecture notes from other students.
3. Scores, rather than grades will be given on evaluated work. The final grade will be figured from the total points rather than the average score. Grading is curved, however, greater than 90% will always be considered “A,” and less than 50% will always be considered “F.”
4. The required textbook will cover only some parts of the course. Outside reading will also be assigned.

Classroom policies
Students should read the academic policies that may be found at http://www4.nau.edu/geology/policystatement.html

These policies include (1) Safe Environment Policy, (2) Students with Disabilities, (3) Institutional Review Board, (4) Academic Integrity, and (5) Academic Contact Hour Policy

Lecture Schedule – tentative and subject to change

<table>
<thead>
<tr>
<th>Week of</th>
<th>Subject</th>
<th>Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug. 27</td>
<td>General characteristics of metamorphism, metamorphic facies</td>
<td>Lab 1. Petrographic microscope and optical methods</td>
</tr>
<tr>
<td>Sept. 3</td>
<td>Mineral facies concept, composition space</td>
<td>Optical methods (con’t)</td>
</tr>
<tr>
<td>Sept. 10</td>
<td>Projections</td>
<td>Optical methods (con’t)</td>
</tr>
<tr>
<td>Sept 17</td>
<td>Phase rule, Schreinemakers analysis and petrogenetic grids</td>
<td>Lab 2. Granulite facies</td>
</tr>
<tr>
<td>Sept 24</td>
<td>Petrogenetic grids/Thermobarometry</td>
<td>Granulite facies (con’t)</td>
</tr>
<tr>
<td>Oct. 1</td>
<td>Thermobarometry. Tentatively, class and lab will not meet Oct. 4 (Hoisch out of town)</td>
<td>Granulite facies (con’t)</td>
</tr>
<tr>
<td>Oct. 8</td>
<td>Pelitic schist</td>
<td>Lab 3. Altered metabasalts – Okanogan Dome, WA</td>
</tr>
<tr>
<td>Oct. 15</td>
<td>Siliceous carbonates</td>
<td>Altered metabasalts (con’t)</td>
</tr>
<tr>
<td>Oct 22</td>
<td>Siliceous carbonates. Exam - Thursday</td>
<td>Altered metabasalts (con’t)</td>
</tr>
<tr>
<td>Oct. 29</td>
<td>Metamorphism and tectonics. Tuesday Oct. 31, class will not meet (GSA)</td>
<td>Lab 4. Pelitic Schist - Funeral Mountains</td>
</tr>
<tr>
<td>Nov. 5</td>
<td>Mineral equilibria, thermobarometry, and pressure-temperature-time paths. Tentatively, class and lab will not meet Nov. 8 (Hoisch out of town)</td>
<td>Lab 4. Pelitic Schist (con’t)</td>
</tr>
<tr>
<td>Nov. 12</td>
<td>Kinetics and diffusion</td>
<td>Lab 4. Pelitic schist (con’t)</td>
</tr>
<tr>
<td>Nov. 19</td>
<td>Thermal modeling. Thursday, Nov. 22 class and lab will not meet (Thanksgiving holiday)</td>
<td>Lab 5. Siliceous carbonates</td>
</tr>
<tr>
<td>Nov. 26</td>
<td>Thermal modeling</td>
<td>Siliceous carbonates (con’t)</td>
</tr>
<tr>
<td>Dec. 3</td>
<td>Thermal modeling</td>
<td>Siliceous carbonates (con’t)</td>
</tr>
<tr>
<td></td>
<td><strong>Final:</strong> Tuesday, Dec. 11, 7:30am, or possibly a take-home exam.</td>
<td></td>
</tr>
</tbody>
</table>

Effective Fall 2013
Possible field trip dates: Weekends of Sept. 15, Dec. 2 or Dec. 8

NORTHERN ARIZONA UNIVERSITY
POLICY STATEMENTS

SAFE ENVIRONMENT POLICY
NAU's Safe Working and Learning Environment Policy seeks to prohibit discrimination and promote the safety of all individuals within the university. The goal of this policy is to prevent the occurrence of discrimination on the basis of sex, race, color, age, national origin, religion, sexual orientation, disability, or veteran status and to prevent sexual harassment, sexual assault or retaliation by anyone at this university.

You may obtain a copy of this policy from the college dean's office. If you have concerns about this policy, it is important that you contact the departmental chair, dean's office, the Office of Student Life (928-523-5181), the academic ombudsperson (928-523-9368), or NAU's Office of Affirmative Action (928-523-3312).

STUDENTS WITH DISABILITIES
If you have a documented disability, you can arrange for accommodations by contacting the office of Disability Support Services (DSS) at 928-523-8773 (voice), 928-523-6906 (TTY). In order for your individual needs to be met, you are required to provide DSS with disability related documentation and are encouraged to provide it at least eight weeks prior to the time you wish to receive accommodations. You must register with DSS each semester you are enrolled at NAU and wish to use accommodations.

Faculty are not authorized to provide a student with disability related accommodations without prior approval from DSS. Students who have registered with DSS are encouraged to notify their instructors a minimum of two weeks in advance to ensure accommodations. Otherwise, the provision of accommodations may be delayed.

Concerns or questions regarding disability related accommodations can be brought to the attention of DSS or the Affirmative Action Office.

INSTITUTIONAL REVIEW BOARD
Any study involving observation of or interaction with human subjects that originates at NAU—including a course project, report, or research paper—must be reviewed and approved by the Institutional Review Board (IRB) for the protection of human subjects in research and research-related activities.

The IRB meets once each month. Proposals must be submitted for review at least fifteen working days before the monthly meeting. You should consult with your course instructor early in the course to ascertain if your project needs to be reviewed by the IRB and/or to secure information or appropriate forms and procedures for the IRB review. Your instructor and department chair or college dean must sign the application for approval by the IRB. The IRB categorizes projects into three levels depending on the nature of the project: exempt from further review, expedited review, or full board review. If the IRB certifies that a project is exempt from further review, you need not resubmit the project for continuing IRB review as long as there are no modifications in the exempted procedures.

Effective Fall 2013
A copy of the IRB Policy and Procedures Manual is available in each department’s administrative office and each college dean’s office. If you have questions, contact Melanie Birck, Office of Grant and Contract Services, at 928-523-8288.

**ACADEMIC INTEGRITY**
The university takes an extremely serious view of violations of academic integrity. As members of the academic community, NAU’s administration, faculty, staff and students are dedicated to promoting an atmosphere of honesty and are committed to maintaining the academic integrity essential to the education process. Inherent in this commitment is the belief that academic dishonesty in all forms violates the basic principles of integrity and impedes learning. Students are therefore responsible for conducting themselves in an academically honest manner.

Individual students and faculty members are responsible for identifying instances of academic dishonesty. Faculty members then recommend penalties to the department chair or college dean in keeping with the severity of the violation. The complete policy on academic integrity is in Appendix F of NAU’s Student Handbook.

**ACADEMIC CONTACT HOUR POLICY**
The Arizona Board of Regents Academic Contact Hour Policy (ABOR Handbook, 2-206, Academic Credit) states: "an hour of work is the equivalent of 50 minutes of class time...at least 15 contact hours of recitation, lecture, discussion, testing or evaluation, seminar, or colloquium as well as a minimum of 30 hours of student homework is required for each unit of credit."

The reasonable interpretation of this policy is that for every credit hour, a student should expect, on average, to do a minimum of two additional hours of work per week; e.g., preparation, homework, studying.

Effective Fall 2013
PROPOSED SYLLABUS (3 UNITS)

Metamorphic Petrology GLG615
Syllabus, updated November 22, 2013

College: Engineering, Forestry and Natural Sciences
Department: School of Earth Sciences and Environmental Sustainability
Course number: GLG615
Course title: Metamorphic Petrology
Semester: tbd
Clock hours: 2 hours lecture and 3 hours lab per week
Credit hours: 3
Instructor: Thomas D. Hoisch
Office: Building 12, rm 227
Office hours: tbd

Course prerequisites:
- Admission to the graduate program in geology.
- Undergraduate majors in geology may take the course with instructor permission and successful completion of GLG309 and GLG315.

Course Description
This course covers the theoretical and applied aspects of the study of metamorphic rocks. Subjects to be covered include chemical projections, Schreinemakers analysis, petrogenetic grids, the Gibbs phase rule, chemical thermodynamics as applied to determining pressures and temperatures of equilibration (thermobarometry), the Gibbs-Duhem theorem, isochemical plots, and the application of metamorphic petrology to tectonic problems.

Learning outcomes
Students will learn how to do each of the following:
- Construct chemographic projections and petrogenetic grids
- Interpret mineral assemblages to determine pressure and temperature from petrogenetic grids
- Use the petrographic microscope to determine mineral assemblages and modes, and to infer mineral reactions.
- Calculate pressures and temperatures from mineral chemistry using chemical thermodynamics, including ideal and non-ideal activity models
- Calculation of isochemical plots to determine pressures and temperatures.
- Calculation of pressure-temperature paths using the Gibbs method based on Duhem’s theorem
- Interpret metamorphism in a tectonic context

Course Structure/Approach
The course has lecture and lab components. Students learn material through the completion of problem sets, lab exercises, a mid-term exam and a term project. Scheduled lab periods will comprise either a 3-hour lab or a 1 hour lecture.

Textbooks
Required:

Effective Fall 2013
Course outline
Lecture Schedule - subject to change

<table>
<thead>
<tr>
<th>Week</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>General characteristics of metamorphism, facies</td>
</tr>
<tr>
<td>2</td>
<td>Transformation of components and projections</td>
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<tr>
<td>3</td>
<td>Gibbs phase rule, Schreinemakers analysis and petrogenetic grids</td>
</tr>
<tr>
<td>4</td>
<td>Petrogenetic grids</td>
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<tr>
<td>5</td>
<td>Pelitic schist progressive metamorphism</td>
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<tr>
<td>6</td>
<td>Thermobarometry</td>
</tr>
<tr>
<td>7</td>
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<td>8</td>
<td>Exam I on Wednesday</td>
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<td>9</td>
<td>Duhem's theorem</td>
</tr>
<tr>
<td>10</td>
<td>isochemical plots</td>
</tr>
<tr>
<td>11</td>
<td>isochemical plots/Gibbs method based on Duhems theorem</td>
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<td>12</td>
<td>Gibbs method based on Duhems theorem</td>
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<td>13</td>
<td>integrating Gibbs methods with isochemical plots</td>
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<td>tectonics and metamorphism</td>
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Lab Schedule - subject to change

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<tr>
<td>2</td>
<td>Microscope methods.</td>
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<td>Microscope methods (con't)</td>
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<td>4</td>
<td>Microscope methods (con't)</td>
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<td>5</td>
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<td>6</td>
<td>Funerals Mountains pelitic schist (con't)</td>
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<td>7</td>
<td>Funerals Mountains pelitic schist (con't)</td>
</tr>
<tr>
<td>8</td>
<td>Thermobarometry calculations</td>
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<tr>
<td>9</td>
<td>Thermobarometry calculations</td>
</tr>
<tr>
<td>10</td>
<td>Bulk composition estimation from modes and mineral analysis (con't)</td>
</tr>
<tr>
<td>11</td>
<td>Bulk composition estimation from modes and mineral analysis</td>
</tr>
<tr>
<td>12</td>
<td>altered metabasalts – Tunk Creek, Okanogan Dome area, WA</td>
</tr>
<tr>
<td>13</td>
<td>altered metabasalts – Tunk Creek, Okanogan Dome area, WA (con't)</td>
</tr>
<tr>
<td>14</td>
<td>isochemical plots for the Tunk Creek rocks</td>
</tr>
<tr>
<td>15</td>
<td>presentations</td>
</tr>
</tbody>
</table>

Assessment of Student Learning Outcomes

Methods
The degree of student mastery of the learning outcomes will be determined from the grading of assignments and exams.

Timeline
Generally, students will receive their homework assignments back within two weeks of being turned in, and other assignments (exams and labs) within three weeks. Grades on the term project will be available to students before the final course grade deadline.

Effective Fall 2013
Grading System
Scores, rather than grades will be given on evaluated work. For problem sets and labs, each problem or component will be assigned a given number of possible points. A problem that is worked out correctly will get full credit. Partial credit will be given on problems when it is appropriate. Each assignment will be normalized to 100% calculated as the points earned divided by the total points possible. The evaluation of the term project will be based on the quality of the work (completeness, correctness, etc.) and the interpretation. For the final class grade, grading is curved, however, greater than 90% will always be considered "A" and less than 50% will always be considered "F." The points earned on assignments will be summed and then weighted according to the following proportions to determine the aggregate score on which the final grade will be assigned:

Term project 25%
Midterm exam 25%
Labs 20%
Problem sets 30%

Course Policy

Retests/makeup tests
Students will be allowed to make other arrangements for an exam if they cannot attend the scheduled exam due to factors beyond their control. Students are allowed only one attempt at an exam – no retests.

Attendance
Students are required to attend lectures. Students who must miss lectures have the responsibility of obtaining lecture notes from other students. Students should be aware that missing lectures will pose a serious obstacle to their ability to perform well in the class.

Plagiarism and cheating
Students may not copy from each other to complete exercises or exams. For written assignments, when quoting material from the literature, students must cite sources using standard practices for science writing and place the text in quotes. The use of quoted material in science writing is rare and discouraged. Students may not claim text written by someone else, either published or unpublished, as their own. Students found to be committing acts of plagiarism or cheating will be subject to disciplinary action.

NORTHERN ARIZONA UNIVERSITY
POLICY STATEMENTS

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You may obtain a copy of this policy from the college dean’s office or from the NAU’s Affirmative Action website http://home.nau.edu/diversity/. If you have concerns about this policy, it is important that you contact the departmental chair, dean’s office, the Office of Student Life (928-523-5181), or NAU’s Office of Affirmative Action (928-523-3312).

STUDENTS WITH DISABILITIES

Effective Fall 2013
If you have a documented disability, you can arrange for accommodations by contacting Disability Resources (DR) at 523-8773 (voice) or 523-6906 (TTY), dr@nau.edu (e-mail) or 928-523-8747 (fax). Students needing academic accommodations are required to register with DR and provide required disability related documentation. Although you may request an accommodation at any time, in order for DR to best meet your individual needs, you are urged to register and submit necessary documentation (www.nau.edu/dr) 8 weeks prior to the time you wish to receive accommodations. DR is strongly committed to the needs of students with disabilities and the promotion of Universal Design. Concerns or questions related to the accessibility of programs and facilities at NAU may be brought to the attention of DR or the Office of Affirmative Action and Equal Opportunity (523-3312).

INSTITUTIONAL REVIEW BOARD
Any study involving observation of or interaction with human subjects that originates at NAU—including a course project, report, or research paper—must be reviewed and approved by the Institutional Review Board (IRB) for the protection of human subjects in research and research-related activities.

The IRB meets monthly. Proposals must be submitted for review at least fifteen working days before the monthly meeting. You should consult with your course instructor early in the course to ascertain if your project needs to be reviewed by the IRB and/or to secure information or appropriate forms and procedures for the IRB review. Your instructor and department chair or college dean must sign the application for approval by the IRB. The IRB categorizes projects into three levels depending on the nature of the project: exempt from further review, expedited review, or full board review. If the IRB certifies that a project is exempt from further review, you need not resubmit the project for continuing IRB review as long as there are no modifications in the exempted procedures.

A copy of the IRB Policy and Procedures Manual is available in each department’s administrative office and each college dean’s office or on their website: http://www.research.nau.edu/compliance/irb/index.aspx. If you have questions, contact the IRB Coordinator in the Office of the Vice President for Research at 928-523-8288 or 523-4340.

ACADEMIC INTEGRITY
The university takes an extremely serious view of violations of academic integrity. As members of the academic community, NAU’s administration, faculty, staff and students are dedicated to promoting an atmosphere of honesty and are committed to maintaining the academic integrity essential to the education process. Inherent in this commitment is the belief that academic dishonesty in all forms violates the basic principles of integrity and impedes learning. Students are therefore responsible for conducting themselves in an academically honest manner.

Individual students and faculty members are responsible for identifying instances of academic dishonesty. Faculty members then recommend penalties to the department chair or college dean in keeping with the severity of the violation. The complete policy on academic integrity is in Appendix G of NAU’s Student Handbook http://www4.nau.edu/stulife/handbookdishonesty.htm.

ACADEMIC CONTACT HOUR POLICY
The Arizona Board of Regents Academic Contact Hour Policy (ABOR Handbook, 2-206, Academic Credit) states: “an hour of work is the equivalent of 50 minutes of class time...at least 15 contact hours of recitation, lecture, discussion, testing or evaluation, seminar, or colloquium as well as a minimum of 30 hours of student homework is required for each unit of credit.”

Effective Fall 2013
The reasonable interpretation of this policy is that for every credit hour, a student should expect, on average, to do a minimum of two additional hours of work per week; e.g., preparation, homework, studying.

SENSITIVE COURSE MATERIALS

If an instructor believes it is appropriate, the syllabus should communicate to students that some course content may be considered sensitive by some students.

"University education aims to expand student understanding and awareness. Thus, it necessarily involves engagement with a wide range of information, ideas, and creative representations. In the course of college studies, students can expect to encounter—and critically appraise—materials that may differ from and perhaps challenge familiar understandings, ideas, and beliefs. Students are encouraged to discuss these matters with faculty."

Effective Fall 2013
If the changes included in this proposal are significant, attach copies of original and proposed syllabi in approved university format.

1. Course subject and number: **PHA 611-615**  
   See upper and lower division undergraduate course definitions.

3. College: **Health and Human Services**  

4. Academic Unit: **Physician Assistant Studies**

5. Current Student Learning Outcomes of the course.

6. Current **title, description and units.** Cut and paste, in its entirety, from the current on-line academic catalog*  
   http://catalog.nau.edu/Catalog/.

   **PHA 611 FAMILY PRACTICE ROTATION (4)**  
   Description: This course is a required four-week rotation in family medicine. The student will apply medical knowledge gained during the didactic year with clinical reasoning and communication skills in the evaluation of problems encountered in the ambulatory family medicine setting (pediatric, adult and geriatric patients). Students will work under the supervision of a Program-determined preceptor or his or her designee(s). Letter grade only. May
be repeated for up to 8 units of credit.
Units: 4
Prerequisite: Passing grades in all first-year didactic courses plus PHA 610 with an overall GPA of 3.0 or better

**PHA 612 – INTERNAL MEDICINE ROTATION (4)**
Description: This course is a required four-week rotation in internal medicine. The student will apply medical knowledge gained during the didactic year to the evaluation and management of more complicated problems encountered in adult patients (age 21 - 100+), both ambulatory and/or inpatient settings. Students will work under the supervision of a Program-determined preceptor or his or her designee(s). Letter grade only. May be repeated for up to 8 units of credit.
Units: 4
Prerequisite: Passing grades in all first-year didactic courses plus PHA 610 with an overall GPA of 3.0 or better

**PHA 614 – PEDIATRICS ROTATION (4)**
Description: This required four-week rotation in Pediatrics will apply medical knowledge with clinical reasoning to problems encountered in the pediatric setting. Additionally, the student will gain knowledge and experience in changes associated with growth/development, assessment, diagnosis and treatment of the infant child and adolescent patient. Students will work under the supervision of a Program-determined preceptor or his or her designee(s). Letter grade only. May be repeated for up to 8 units of credit.
Units: 4
Prerequisite: Passing grades in all first-year didactic courses plus PHA 610 with an overall GPA of 3.0 or better

**PHA 615 – WOMEN’S HEALTH ROTATION (4)**
Description: This course is a required four-week clinical experience in women’s health. This
A course will introduce students to the care of women through their pregnancy and delivery. Students will also work in ambulatory settings caring for women with a focus on gynecology. Letter grade only. May be repeated for up to 8 units of credit.

Units: 4
Prerequisite: Passing grades in all first-year didactic courses plus PHA 610 with an overall GPA of 3.0 or better.

*If there has been a previously approved UCC/UGC/ECCC change since the last catalog year, please copy the approved text from the proposal form into this field.

7. Justification for course change.

We have realized that many students have taken one or two of the four primary care courses designed as repeatable twice in the same semester, and apparently our approval for this did not include repeats in the same semester. This proposal is to make the courses repeatable in the same semester.

8. Effective **BEGINNING** of what term and year? **Fall 2014**

*See effective dates calendar.*

**IN THE FOLLOWING SECTION, COMPLETE ONLY WHAT IS CHANGING**

<table>
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<tr>
<th>CURRENT</th>
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<td>Current course subject and number:</td>
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<tr>
<td>Current prerequisite:</td>
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<td>Current co-requisite:</td>
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<td>Current cross list with:</td>
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Effective Fall 2012
9. Is this course in any plan (major, minor, or certificate) or sub plan (emphasis)? Yes □ No □
   If yes, describe the impact. If applicable, include evidence of notification to and/or response from each impacted academic unit.

Physician Assistant Studies MPAS

10. Is there a related plan or sub plan change proposal being submitted? Yes □ No □
    If no, explain.
    These repeatability changes will not require a related plan change.

11. Does this course include combined lecture and lab components? Yes □ No □
    If yes, include the units specific to each component in the course description above.

Answer 12-15 for UCC/ECCC only:

12. Is this course an approved Liberal Studies or Diversity course? Yes □ No □
    If yes, select all that apply. Liberal Studies □ Diversity □ Both □

13. Do you want to remove the Liberal Studies or Diversity designation? Yes □ No □
    If yes, select all that apply. Liberal Studies □ Diversity □ Both □

14. Is this course listed in the Course Equivalency Guide? Yes □ No □

15. Is this course a Shared Unique Numbering (SUN) course? Yes □ No □

FLAGSTAFF MOUNTAIN CAMPUS

Scott Galland 12/11/2013
Reviewed by Curriculum Process Associate Date

Approvals:

Richard Dehn 12/11/2013
Department Chair/Unit Head (if appropriate) Date

Chair of college curriculum committee Date

Leslie Schulz 12/11/2013
Dean of college Date

For Committee use only: 
Effective Fall 2012

2/12/14
UCC/UGC Approval

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EXTENDED CAMPUSES

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**Approvals:**

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# Northern Arizona University

## Academic Integrity Policy

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1 This policy was compiled from the current NAU policy and from the Cornell Policy found online at [http://theuniversityfaculty.cornell.edu/pdfs/AcadIntegHdbk9.06Rev.pdf](http://theuniversityfaculty.cornell.edu/pdfs/AcadIntegHdbk9.06Rev.pdf)
PREFACE

Integrity is expected of every member of the NAU community in all academic undertakings. Integrity entails a firm adherence to a set of values, and the values most essential to an academic community are grounded in honesty with respect to all intellectual efforts of oneself and others. Academic integrity is expected not only in formal coursework situations, but in all University relationships and interactions connected to the educational process, including the use of University resources. This document sets forth the policy and procedures related to student violations of these principles.

An NAU student’s submission of work is an implicit declaration that the work is the student’s own. All outside assistance should be acknowledged, and the student’s academic contribution truthfully reported at all times. In addition, NAU students have a right to expect academic integrity from each of their peers.

Faculty members have a responsibility to be clear in expectations related to academic assignments, exams and other academic endeavors. Faculty members also have a responsibility to support academic integrity by reporting any act of academic dishonesty in a timely manner and in accordance with the procedures described in this policy.

GUIDELINES FOR FACULTY

General Responsibilities and Information
1. Faculty members have a responsibility to be clear in expectations related to academic assignments, exams and other academic endeavors.
2. Faculty members also have a responsibility to support academic integrity by reporting any act of academic dishonesty in a timely manner and in accordance with the procedures described in this policy.
3. While faculty have authority and discretion under this policy to handle academic integrity violations, the Hearing Board has the authority to modify or overturn a faculty member’s decision or penalty.

Specific Responsibilities
1. Faculty members shall provide a copy of, or link to, this policy in each syllabus
2. Any statements about penalties for academic integrity violations shall align with the principles of this policy – in particular, penalties should be commensurate with the activity of the student. If faculty wish to impose penalties which may be considered overly severe (i.e. a “you cheat you fail rule”), faculty should articulate why the severe penalties are appropriate for the course and should receive department and/or college approval prior to including that statement in the syllabus.
GUIDELINES FOR STUDENTS

General Responsibilities
1. A student shall in no way misrepresent his or her work.
2. A student shall in no way attempt to achieve a grade through fraudulent or unfair means.
3. A student shall refuse to participate in, or allow to go unreported, another student’s failure to maintain academic integrity.
4. A student shall not in any other manner violate the principle of academic integrity.

Examples of Violations
The following actions are examples of activities that violate the Academic Integrity Policy. This is not a comprehensive list.

Cheating is the intentional use of, or attempted use of, unauthorized materials, information, study aids, or previously prepared solutions in any academic exercise, exam, paper or other assignment. Cheating includes, but is not limited to the following acts:

- Copying another student’s work.
- Sharing answers for either a take-home or in-class examination unless specifically and explicitly allowed.
- Using notes, books or web materials in an exam when such aids are forbidden.
- Taking an examination in another student’s name or having another person take one for a student.
- Changing the answers in an examination after it has been graded in order to gain more credit than deserved.
- Using a “cheat-sheet” or other prohibited assistance (calculator, cell phone, text messaging, etc.) during an examination.
- Working on an examination outside the specified time limits, such as beginning before the faculty member directs students to begin, or continuing to work after the faculty member has declared an end to the examination period.
- Using a commercial service or engaging another person (whether paid or unpaid) to prepare assigned work. Unless prohibited by the faculty member for educational reasons, editing and/or proof-reading by another person is not considered cheating.

Collusion occurs where:
- Two or more students work together to produce individually submitted work without the permission of the appropriate faculty member, or
- A student produces work and knowingly allows another student to copy it and submit that copy for assessment. Where this occurs, both students will be regarded as having colluded.
- A student disseminates course assessment materials (for example, online exams, homework assignments, pictures of exams)
- A student assists another student to commit an act of academic dishonesty
Fabrication/Fraud is the unauthorized falsification or invention of any information, data, or citation in an academic exercise. It also includes, but is not limited to:

- The presentation of information or data not collected in accordance with standard applicable ethical guidelines.
- The intentional failure to include an accurate account of the method by which data was gathered or collected.
- Any attempt to deceive a faculty member or administrative officer of the university regarding academic work.

Obtaining an unfair advantage means engaging in activities that directly or indirectly compromise the fair assessment or grading of a student's work or constraining other students’ ability to successfully complete an assignment.

Obtaining an unfair advantage includes but is not limited to the following acts:

- Stealing, reproducing, circulating or otherwise gaining access to assessment materials before the authorized time.
- Stealing, destroying, defacing or concealing library or other reference materials and so causing others to be deprived of their use or hindering or preventing a faculty member from assessing a student’s work.
- Possessing, using, or circulating previously administered examinations, unless authorized by the appropriate faculty member.

Plagiarism means representing the words, expressions, productions or creative works of another as one's own in any academic exercise. It includes, but is not limited to, **actual plagiarism, improper paraphrasing, insufficient citation and self-plagiarism**. Plagiarism occurs when a student uses the words of another person or entity (including his or her own words without the permission of the receiving instructor), without proper citation or permission. It also includes improper paraphrasing, or making a small change to a passage or paper without appropriate citation.

**Jurisdiction**

1) Faculty members make the initial determination of whether a specific action shall be treated as a violation of the Academic Integrity policy and may impose penalties related to their courses.

2) A faculty member’s determination and/or the penalties may be appealed in a Primary Appeal. The chair of the Primary Appeal may uphold, revise or reverse the faculty member’s determination and/or penalty.

3) The Academic Integrity Hearing Board (also called the Hearing Board throughout this document) hears appeals of Primary Appeals, or takes referrals directly from faculty or other university personnel, and can uphold, revise or reverse the decision of the Primary Appeal. The Hearing Board also may impose further, department and college penalties as well as recommend university-level penalties.
Penalties

1. **Faculty imposed penalties**: Examples of possible faculty member-imposed penalties include, but are not limited to:
   - Educational assignments such as completion of an academic dishonesty tutorial or a learning module\(^2\)
   - Reducing the grade on the assignment or examination
   - Awarding a grade of zero or “F” on the assignment or examination
   - Reducing the grade in the course by one letter grade
   - Awarding a failing grade in the course
   - Warning the student in writing about the incident

Other faculty member-imposed penalties may be deemed appropriate in accordance with the nature of the offense and related information after consultation with the faculty member’s Department Chair/Director/Associate Dean.

2. **Hearing Board penalties**: Other penalties that may be imposed by the Hearing Board (“Hearing Board penalties”) for violations of the Academic Integrity Policy, but that are not available for an individual faculty member to impose, include, but are not limited to:
   - Removal from the student’s program of study
   - Recommendation to the Provost or the Provost’s designee that the student be placed on University Probation
   - Recommendation to the Provost or the Provost’s designee that the student be suspended
   - Recommendation to the Provost or the Provost’s designee that the student be expelled

3. Penalties associated with violations of this policy shall be proportionate to the nature of the violation. Factors to consider may include:
   a. Academic level of the student
   b. Prior violations (indicating an awareness of the policy)
   c. Evidence of training in academic integrity issues
   d. Consistency of the penalty with similar incidents within the college

4. Those who violate the Academic Integrity policy will be subject to penalties under this policy and may also be subject to penalties under the University Student Code of Conduct, state and federal laws.

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**ORGANIZATION AND PROCEDURE**

**Faculty/Student Meeting**

1. **Investigation and Faculty/Student Meeting**. If a faculty member believes, or receives information from a third party, that a student has violated the Academic Integrity Policy, the faculty member shall meet with the student to discuss the alleged violation.\(^3\)

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\(^2\) See e-Learning (http://www.nau.edu/~d-elearn/support/tutorials/academicintegrity/index.php) for tutorials and course shell modules on academic integrity.

\(^3\) The term meeting, as used throughout this document, includes in person, via telephone, or by other meeting assistive technologies (such as Skype).
a. During the meeting, the faculty member will describe the evidence that indicates a violation of the Academic Integrity Policy.

b. The student shall have an opportunity to respond to the faculty member’s evidence.

2. **Outcome.** There are several outcomes that may result from the meeting.

a. If the student admits the allegations, and the action is such that faculty-imposed penalties are sufficient, the faculty member shall impose a penalty and shall complete the Academic Integrity Violation Reporting Form and forward it to the Associate Dean of the College with a copy to the Department Chair/Director of the course’s department and to the Associate Dean of the Graduate College if the student is a graduate student.
   i. If the faculty member believes that faculty-imposed penalties are not sufficient, the faculty member shall refer the case directly to the Academic Integrity Hearing Board for consideration of Hearing Board penalties.

b. If the student denies the allegations and provides sufficient evidence to the faculty member that no violation occurred, the incident shall be closed with no report.

c. If the student denies the allegations, but the faculty member determines that there is clear and convincing evidence\(^4\) that a violation occurred, the faculty member shall impose a penalty and shall complete the Academic Integrity Violation Reporting Form and forward it to the Associate Dean of the College with a copy to the Department Chair/Director of the course’s department and to the Associate Dean of the Graduate College if the student is a graduate student.
   i. If the faculty member believes that faculty-imposed penalties are not sufficient, the faculty member shall refer the case directly to the Academic Integrity Hearing Board for consideration of Hearing Board penalties.

d. In any case, the faculty member shall notify the student in writing of the decision, penalty, any recommendation to the Hearing Board, and shall provide information to the student about the appeal process.\(^5\) The faculty member shall complete the Academic Integrity Violation Reporting Form, including the proposed penalty and indicating the referral to the Primary Appeal if such be the outcome. The form shall be sent to the Associate Dean of the College with a copy to the Department Chair/Director of the course’s department. The Associate Dean of the college will check for prior violations, and if any exist, may refer the student to the Academic Integrity Hearing Board of that student’s college.

e. A student charged with violating the Academic Integrity policy in a course may not drop that course without the consent of the instructor unless the student has subsequently been cleared of the charges.\(^6\)

\(^4\) The standard of “clear and convincing” evidence means evidence beyond a mere preponderance (50% +) but below that characterized as “beyond a reasonable doubt” so that the faculty member has a firm belief in the truth of the evidence.

\(^5\) E-mail sent through the NAU e-mail system to NAU e-mail accounts constitutes a sufficient writing.

\(^6\) If a student drops the course, the Associate Dean or Department Chair/Director can work with the Registrar to have the student reinstated and given a grade. If a student is to receive an F in the course, the faculty can file a “Change of Grade” form with the Office of the Registrar as soon as that penalty is finalized and the Registrar will input that grade preventing the student from dropping the course.
Primary Appeal

1. **Primary Appeals** will be held when a Faculty/Student Meeting does not resolve the situation. A student may initiate a Primary Appeal by written request to the Department Chair/Director of the course's department or appropriate administrator of the college in which the course resides. This request must be made within 10 working days of the Faculty/Student Meeting.

2. **Notification.** The Department Chair/Director or appropriate administrator shall present both the faculty member and the student with the allegations of violation as well as the basis for appeal (if initiated by the student). The allegations document shall indicate that a Primary Appeal will be held as soon as practical after the alleged infraction has come to the attention of the faculty member. A copy of this document shall be copied to the Associate Dean of the college in which the course resides.

3. **Composition.** The following individuals shall be present at the Primary Appeal: the faculty member concerned, the student in question, and a third-party decision-maker (Appeal’s Chair). The Appeal’s Chair shall be a Department Chair/Director or other administrator as appointed by the Dean. The student and faculty member may bring witnesses to testify regarding the alleged academic integrity violation. Witnesses for the student must be witnesses to the events in question and not character references. The student is allowed to bring an advocate with them to the hearing. The advocate may consult with the student but may not speak on behalf of the student.

4. **Procedure**
   a. At the Primary Appeal, the Appeal’s Chair shall introduce all parties and shall go over this policy. The Appeal’s Chair shall take notes during the meeting which shall constitute the official minutes of the meeting.
   b. The faculty member shall present evidence in support of the allegations against the student. The student shall be given the opportunity to respond and, if he or she wishes, to present evidence refuting the allegations.
   c. If the student fails to attend the Primary Appeal without a compelling excuse, the hearing may proceed in his or her absence.
   d. **Outcome.** There are several potential outcomes of the Primary Appeal
      a. The Appeal’s Chair may overturn the decision of the faculty and declare that no violation occurred;
      b. The Appeal’s Chair may uphold the decision and the penalty imposed by the faculty member if there is clear and convincing evidence to support the faculty member’s finding
      c. The Appeal’s Chair may uphold the decision of the faculty member that a violation occurred but may modify the penalty in accordance with this policy, up to and including failure in the course. The Chair has the authority to either reduce or increase the penalty.
         i. If the Appeal’s Chair believes that Hearing Board penalties should be considered, the Appeal’s Chair shall refer the case directly to the Academic Integrity Hearing Board.
      e. A student wishing to seek review of the decision may appeal the case to the Academic Integrity Hearing Board of the faculty member’s college.
f. The Appeal’s Chair shall complete the Academic Integrity Violation Reporting Form and forward it to the Associate Dean of the College with a copy to the Department Chair/Director of the course’s department (if that person is not the Appeal’s Chair) and to the Associate Dean of the Graduate College if the student is a graduate student.

College Academic Integrity Hearing Board

1. **Composition.** Each college in the University shall establish its own Academic Integrity Hearing Board. Not all members of the Hearing Board will serve on all hearings. If a college contains schools within the college, the Dean of the college may establish a separate Hearing Board for the school. A model Hearing Board consists of the following:
   
a. A chairperson who is a member of the faculty and, preferably, an experienced Board member, appointed by the Dean of the college for a two-year term. A college may have two or more faculty members trained as chairpersons.

b. Four to five faculty members elected for three-year terms by the faculty of the college.

c. Four to five students appointed by the Dean of the college for at least one year terms. At least one student should be a graduate student. When possible, student terms should be two years and should be staggered.

d. One to two identified record keepers responsible for keeping clear and complete records of the proceedings. This record may be notes of the meeting or may be by tape recording or other type of recording. This record is the official record of the meeting.

2. **Training.** All members of the Hearing Board, including chairpersons, shall receive training.

3. **Jurisdiction**
   
a. Hearing Boards shall have jurisdiction to hear cases if
      
      i. The hearing is an appeal of faculty member-imposed penalties for a course within the college
      
      ii. The hearing is an original hearing to determine Hearing Board-imposed penalties and the student has declared a major within the college.

b. A student may appeal the decision of a Primary Appeal to the Hearing Board of the college where the course resides if:
   
   i. The student believes the procedure was improper or unfair.
   
   ii. The student contests the finding of violation.
   
   iii. The student contests the penalty as too strict considering the offense.

c. A faculty member may
   
   i. Appeal a reversal of their original decision by the Primary Appeal decision-maker;
   
   ii. Refer a case to the student’s major’s college Hearing Board if he or she believes that the incident warrants penalties beyond classroom penalties (i.e. program dismissal, or university probation, suspension or expulsion).

d. A student with a history of violations of the Academic Integrity policy may be summoned before the his or her own college Hearing Board by the Department

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7 Extended Campuses also shall have a Hearing Board for programs and courses offered by Extended Campus departments. If courses are offered by Flagstaff departments but through Extended Campuses, the home college of the course shall be the home of the Hearing Board for any appeals.
Chair/Director, Associate Dean or Dean of his or her college. The Hearing Board
may impose an additional penalty for such repeated offenses.

e. The individual seeking review shall notify the chairperson of the appropriate
Hearing Board within ten working days of the Primary Appeal.

f. An exception to this deadline may be granted at the discretion of the chairperson
of the Hearing Board on a showing of good cause.

4. Procedures

a. The Academic Integrity Hearing Board shall convene as soon as practical, but not
more than 10 business days, after notification of a request for review, although
seven days' notice should be given to all parties if possible. If a grade for the
student in the course must be submitted before a case can be decided, the faculty
member shall record a grade of incomplete, pending a decision by the Hearing
Board.

b. Those present at the hearing shall be:
   i. The student, who has the right to be accompanied by an advocate and/or
      relevant witnesses
      1) The advocate may consult with the student throughout the hearing
         but may not speak on behalf of the student or represent the student
   ii. The faculty member, who has the right to bring relevant witnesses
   iii. The Appeal's Chair of the Primary Appeal, if held
   iv. The chairperson
   v. A panel of at least two students and two faculty members from the Board.
      1) If the accused student is a graduate student, then at least one
         graduate student must be on the panel.
      2) If the student's college is different from the faculty member's, at
         least one panel member must come from the student's college.
         The chairperson shall work with the chairperson of the student's
         college to obtain a panel member from the other college.
   vi. Any other person called by the chairperson.
   vii. The official record keeper

c. Should the student or faculty member fail to appear before the Hearing Board, the
   Board shall have full authority to proceed in his or her absence.

d. The Board members shall hear all cases before them de novo, hearing all available
   parties to the dispute and examine all the evidence presented. The Board may
   solicit outside advice at the discretion of the chairperson. The chairperson shall
   preside over the hearing to ensure that no party threatens, intimidates, or coerces
   any of the participants.

e. The student shall have the right to present her or his case and to challenge the
   charges or the evidence. The student's advisor may assist the student in the
   presentation and questioning.

f. Of those present, a simple majority shall decide the issue. The chairperson shall
   vote only in the case of a tie vote. The Board shall find the student in violation
   only if there is clear and convincing evidence indicating that the student has
   violated this policy.

g. The chairperson shall notify each party to the dispute, in writing, of the Board's
   decision and, if appropriate, the penalty imposed. If the judgment of the faculty
member is affirmed by the Board, or if the Board decides a different penalty is warranted, the Dean of the faculty member’s college, and the Dean of the student’s college, and the Dean of the Graduate College (for graduate students only) shall also receive the report. This notification should be sent within 7 working days of the hearing when possible.

g-h. The chairperson shall complete the Academic Integrity Violation Reporting Form and forward it to the Associate Dean of the College with copies to the Department Chair/Director of the course’s department and to the Associate Dean of the Graduate College if the student is a graduate student.

5. Findings.

a. The decision of the Hearing Board is a final and binding decision unless overturned on appeal through the process established below. The Dean of the college shall ensure that the Hearing Board decision is implemented.

b. The Hearing Board may:

i. Find the student not in violation of the policy and overturn any penalty imposed by the faculty member in a prior hearing or meeting.

ii. Find the student in violation of the policy and

1. Affirm the penalty imposed by the faculty member
2. Reduce the penalty imposed by the faculty member. The Hearing Board shall articulate the reasons for the reduction.
3. Increase the penalty imposed by the faculty member. The Hearing Board shall do this in rare circumstances in order to maintain consistency across the college and shall articulate the reasons for the increased penalty.
4. Recommend to the Dean of the student’s college that the student be removed from the student’s program of study.
5. Recommend to the Provost or the Provost’s designee that the student be placed on University probation
6. Recommend to the Provost or the Provost’s designee that the student be suspended from the University for a period of time
7. Recommend to the Provost or the Provost’s designee that the student be expelled from the University

Review of Hearing Board Decision

The student or the faculty member may appeal a decision of the Hearing Board. The appeal must be directed to the Dean of the course’s college, in writing, and shall be constructed according to one or both of the guidelines established below. The appeal shall be submitted within 4 weeks of notification of the Hearing Board’s decision, but exceptions to this deadline may be granted by the Dean on showing of good cause. If the Hearing Board’s decision involves students from more than one college, the Deans involved shall consult with each other.

a. Appeal of a finding that a violation occurred. A student who has been found in violation of this policy by the Hearing Board, or whose finding of violation in a Primary Appeal was upheld by the Hearing Board, may appeal on one or both of the following grounds:

i. Additional evidence which might have affected the outcome of the hearing became available following the hearing.
ii. A violation of procedure by the Hearing Board that might have prejudiced the outcome of the hearing.

b. Appeal of a penalty. The student may appeal the findings of the Hearing Board regarding penalties. The appeal shall specify the reasons why the student believes the penalty is inappropriate.

c. Appeal of a finding that no violation occurred or of a reduction of penalty. The faculty member may appeal the findings of the Hearing Board regarding a finding of no violation or a reduction of penalty. The appeal shall specify the reasons why the faculty member believes the Hearing Board decision is not correct.

The Dean may deny the appeal, may hear the appeal and uphold, modify or reverse the decision or penalties of the Hearing Board, or may send the case back to the Hearing Board for reconsideration. The Dean’s decision cannot be appealed. Once the Dean has made a decision, s/he will complete the Academic Integrity Violation Reporting Form and forward it to the Associate Dean of the College with copies to the Department Chair/Director of the course’s department and to the Associate Dean of the Graduate College if the student is a graduate student.

Records of Action
All actions (Faculty/Student Meetings, Primary Appeals and Hearing Board hearings) shall be recorded via the Academic Integrity Violation Reporting Form and filed with the Office of the Provost. Students who have two or more violations with grade penalties shall meet with the Office of Student Life under the Student Code of Conduct (Section F.1) for possible suspension or expulsion. If the student is found not in violation by the Hearing Board or if the Dean overturns a finding of a violation, a note will be made to the file that the student was found not in violation with a short description of the process and results.
Academic Dishonesty Reporting Form

For full description of the procedures see Academic Dishonesty in the NAU Student Handbook dated 10/19/11

Date: ___________ Course Prefix: ______ Course Number: ______
Course Title: ___________________________________ Instructor(s): ____________________________
Student Name: ____________________________ Student ID: ____________

ACADEMIC DISHONESTY is a form of misconduct that is subject to disciplinary action under the Student Code of Conduct and includes the following (please check the appropriate block[s]).

☐ Cheating: any attempt to gain an unfair advantage over one's fellow students.
☐ Collusion: any attempt to help another student to commit any type of academic dishonesty.
☐ Fabrication/Fraud: any attempt to knowingly present false information as true or to deceive an instructor or administrative officer of the university.
☐ Obtaining an unfair advantage: any attempt to directly or indirectly compromise fair assessment/grading or constrain other students' ability to successfully complete their assignments.
☐ Plagiarism: any attempt to knowingly or deliberately pass off other's work as your own.

Description of the Academic Dishonesty:

COURSE SANCTIONS It is the responsibility of the individual faculty member to identify instances of academic dishonesty and recommend penalties to the department chair and/or dean in keeping with the severity of the violation.

☐ Written warning
☐ Educational assignment: e.g. completion of academic dishonesty tutorial or a learning module
☐ Reduce the grade of the assignment or examination
☐ Award a zero or F grade on the assignment or examination
☐ Reduce course grade by one letter
☐ Award a failing grade in the course
☐ Other, please specify:

If the academic dishonesty occurs prior to the last withdrawal date of the semester and the sanction is a failing grade for the course, then the faculty member may require the student to remain enrolled in the course.

ADMINISTRATIVE USE ONLY:

Number of prior/concurrent offenses

Graduate student: ☐ Yes ☐ No If Yes, Graduate College Associate Dean notified ☐

ADDITIONAL ACTIONS:

Form found at http://nau.edu/University-Policies/Academic-Affairs/

Approved 1/30/2013
2013 Academic Dishonesty Snapshot
170 Total Reports from January to December

TOTAL REPORTS

UGRD REPORTS

INFRINGEMENTS

SANCTIONS

Cheating
Collusion
Fabrication/Fraud
Obtaining Unfair Advantage
Plagiarism
Other

Written Warning
Educational Assmt
Reduction on Assmt
Zero/F on Assmt
Reduction Course Grade
F Course Grade
Other
Example Honor Codes

Example 1:

I pledge to uphold a strong sense of shared accountability, trust, equality and respect among all members of the Northern Arizona University community and to promote the aspiration for greater academic and personal achievement. As a student I subscribe to the provisions of the honor code with my membership in the community. I understand the value and importance of sustaining a culture of integrity; not only in formal coursework, but in all community relationships and interactions connected to the educational process. This honor code is based on the Northern Arizona’s Academic Integrity Policy (provide link to policy).

Example 2:

As a member of the Northern Arizona University community, I understand the value and importance of integrity; not only in formal coursework, but in all community relationships and interactions connected to the educational process. I hereby pledge to conduct myself in accordance with the NAU Academic Integrity Policy, to act responsibly and honorably in my academic activities, and to be fair, civil, and honest with all members of the NAU community. (provide link to policy)
CURRENT POLICY

NORTHERN ARIZONA UNIVERSITY
POLICY STATEMENTS

SAFE ENVIRONMENT POLICY
NAU’s Safe Working and Learning Environment Policy seeks to prohibit discrimination and promote the safety of all individuals within the university. The goal of this policy is to prevent the occurrence of discrimination on the basis of sex, race, color, age, national origin, religion, sexual orientation, disability, or veteran status and to prevent sexual harassment, sexual assault or retaliation by anyone at this university.

You may obtain a copy of this policy from the college dean’s office or from the NAU’s Affirmative Action website http://home.nau.edu/diversity/. If you have concerns about this policy, it is important that you contact the departmental chair, dean’s office, the Office of Student Life (928-523-5181), or NAU’s Office of Affirmative Action (928-523-3312).

STUDENTS WITH DISABILITIES
If you have a documented disability, you can arrange for accommodations by contacting Disability Resources (DR) at 523-8773 (voice) or 523-6906 (TTY), dr@nau.edu (e-mail) or 928-523-8747 (fax). Students needing academic accommodations are required to register with DR and provide required disability related documentation. Although you may request an accommodation at any time, in order for DR to best meet your individual needs, you are urged to register and submit necessary documentation (www.nau.edu/dr) 8 weeks prior to the time you wish to receive accommodations. DR is strongly committed to the needs of student with disabilities and the promotion of Universal Design. Concerns or questions related to the accessibility of programs and facilities at NAU may be brought to the attention of DR or the Office of Affirmative Action and Equal Opportunity (523-3312).

INSTITUTIONAL REVIEW BOARD
Any study involving observation or interaction with human subjects that originates at NAU—including a course project, report, or research paper—must be reviewed and approved by the Institutional Review Board (IRB) for the protection of human subjects in research and research-related activities.

The IRB meets monthly. Proposals must be submitted for review at least fifteen working days before the monthly meeting. You should consult with your course instructor early in the course to ascertain if your project needs to be reviewed by the IRB and/or to secure information or appropriate forms and procedures for the IRB review. Your instructor and department chair or college dean must sign the application for approval by the IRB. The IRB categorizes projects into three levels depending on the nature of the project: exempt from further review, expedited review, or full board review. If the IRB certifies that a project is exempt from further review, you need not resubmit the project for continuing IRB review as long as there are no modifications in the exempted procedures.

A copy of the IRB Policy and Procedures Manual is available in each department’s administrative office and each college dean’s office or on their website: http://www.research.nau.edu/compliance/irb/index.aspx. If you have questions, contact the IRB Coordinator in the Office of the Vice President for Research at 928-523-8288 or 523-4340.

ACADEMIC INTEGRITY
The university takes an extremely serious view of violations of academic integrity. As members of the academic community, NAU’s administration, faculty, staff and students are dedicated to promoting an atmosphere of honesty and are committed to maintaining the academic integrity essential to the education process. Inherent in this commitment is the belief that academic dishonesty in all forms violates the basic principles of integrity and impedes learning. Students are therefore responsible for conducting themselves in an academically honest manner.

Individual students and faculty members are responsible for identifying instances of academic dishonesty. Faculty members then recommend penalties to the department chair or college dean in keeping with the severity of the violation. The complete policy on academic integrity is in Appendix G of NAU’s Student Handbook http://www4.nau.edu/stulife/handbookdishonesty.htm.
ACADEMIC CONTACT HOUR POLICY
The Arizona Board of Regents Academic Contact Hour Policy (ABOR Handbook, 2-206, Academic Credit) states: “an hour of work is the equivalent of 50 minutes of class time...at least 15 contact hours of recitation, lecture, discussion, testing or evaluation, seminar, or colloquium as well as a minimum of 30 hours of student homework is required for each unit of credit.”

The reasonable interpretation of this policy is that for every credit hour, a student should expect, on average, to do a minimum of two additional hours of work per week; e.g., preparation, homework, studying.

SENSITIVE COURSE MATERIALS
If an instructor believes it is appropriate, the syllabus should communicate to students that some course content may be considered sensitive by some students.

“University education aims to expand student understanding and awareness. Thus, it necessarily involves engagement with a wide range of information, ideas, and creative representations. In the course of college studies, students can expect to encounter—and critically appraise—materials that may differ from and perhaps challenge familiar understandings, ideas, and beliefs. Students are encouraged to discuss these matters with faculty.”
NEW/PROPOSED POLICY

NORTHERN ARIZONA UNIVERSITY
POLICY STATEMENTS FOR COURSE SYLLABI

SAFE ENVIRONMENT POLICY
NAU's Safe Working and Learning Environment Policy prohibits sexual harassment and assault, and discrimination and harassment on the basis of sex, race, color, age, national origin, religion, sexual orientation, gender identity, disability, or veteran status by anyone at this university. Retaliation of any kind as a result of making a complaint under the policy or participating in an investigation is also prohibited. The Director of the Office of Affirmative Action & Equal Opportunity (AA/EO) serves as the university's compliance officer for affirmative action, civil rights, and Title IX, and is the ADA/504 Coordinator. AA/EO also assists with religious accommodations. You may obtain a copy of this policy from the college dean's office or from the NAU's Affirmative Action website nau.edu/diversity/. If you have questions or concerns about this policy, it is important that you contact the departmental chair, dean's office, the Office of Student Life (928-523-5181), or NAU's Office of Affirmative Action (928) 523-3312 (voice), (928) 523-9977 (fax), (928) 523-1006 (TTD) or aaeo@nau.edu.

STUDENTS WITH DISABILITIES
If you have a documented disability, you can arrange for accommodations by contacting Disability Resources (DR) at 523-8773 (voice) or 523-6906 (TTY), dr@nau.edu (e-mail) or 928-523-8747 (fax). Students needing academic accommodations are required to register with DR and provide required disability related documentation. Although you may request an accommodation at any time, in order for DR to best meet your individual needs, you are urged to register and submit necessary documentation (www.nau.edu/dr) 8 weeks prior to the time you wish to receive accommodations. DR is strongly committed to the needs of student with disabilities and the promotion of Universal Design. Concerns or questions related to the accessibility of programs and facilities at NAU may be brought to the attention of DR or the Office of Affirmative Action and Equal Opportunity (523-3312).

ACADEMIC CONTACT HOUR POLICY
Based on the Arizona Board of Regents Academic Contact Hour Policy (ABOR Handbook, 2-224), for every unit of credit, a student should expect, on average, to do a minimum of three hours of work per week, including but not limited to class time, preparation, homework, studying.

ACADEMIC INTEGRITY
Integrity is expected of every member of the NAU community in all academic undertakings. Integrity entails a firm adherence to a set of values, and the values most essential to an academic community are grounded in honesty with respect to all intellectual efforts of oneself and others. Academic integrity is expected not only in formal coursework situations, but in all University relationships and interactions connected to the educational process, including the use of University resources. An NAU student's submission of work is an implicit declaration that the work is the student's own. All outside assistance should be acknowledged, and the student's academic contribution truthfully reported at all times. In addition, NAU students have a right to expect academic integrity from each of their peers.

Individual students and faculty members are responsible for identifying potential violations of the university's academic integrity policy. Instances of potential violations are adjudicated using the process found in the university Academic Integrity Policy. The complete policy is in Appendix G of NAU's Student Handbook http://www4.nau.edu/studentlife/handbook/dishonesty.htm
RESEARCH INTEGRITY
The Responsible Conduct of Research policy is intended to insure that NAU personnel including NAU students engaged in research are adequately trained in the basic principles of ethics in research. Additionally, this policy assists NAU in meeting the RCR training and compliance requirements of the National Science Foundation (NSF)-The America COMPETES Act (Creating Opportunities to Meaningfully Promote Excellence in Technology, Education and Science); 42 U.S.C 18620-1, Section 7009, and the National Institutes of Health (NIH) policy on the instruction of the RCR (NOT-OD-10-019; "Update on the Requirement for Instruction in the Responsible Conduct of Research"). For more information on the policy and the training activities required for personnel and students conducting research, at NAU, visit: http://nau.edu/Research/Compliance/Research-Integrity/

SENSITIVE COURSE MATERIALS
University education aims to expand student understanding and awareness. Thus, it necessarily involves engagement with a wide range of information, ideas, and creative representations. In the course of college studies, students can expect to encounter—and critically appraise—materials that may differ from and perhaps challenge familiar understandings, ideas, and beliefs. Students are encouraged to discuss these matters with faculty.

CLASSROOM DISRUPTION POLICY
Membership in the academic community places a special obligation on all participants to preserve an atmosphere conducive to a safe and positive learning environment. Part of that obligation implies the responsibility of each member of the NAU community to maintain an environment in which the behavior of any individual is not disruptive. Instructors have the authority and the responsibility to manage their classes in accordance with University regulations. Instructors have the right and obligation to confront disruptive behaviors thereby promoting and enforcing standards of behavior necessary for maintaining an atmosphere conducive to teaching and learning. Instructors are responsible for establishing, communicating, and enforcing reasonable expectations and rules of classroom behavior. These expectations are to be communicated to students in the syllabus and in class discussions and activities at the outset of the course. Each student is responsible for behaving in a manner that supports a positive learning environment and that does not interrupt nor disrupt the delivery of education by instructors or receipt of education by students, within or outside a class. The complete classroom disruption policy is in Appendices of NAU’s Student Handbook http://nau.edu/Student-Life/Student-Handbook/.
APPLICATION, TRANSCRIPT, AND TOEFL POLICIES
JANUARY 2014

US Citizens and Legal Residents applying for graduate school at Northern Arizona University must:
• complete the online application for Graduate Admission.
• pay a $65 nonrefundable application processing fee ($35 if applying for admission as a non-degree student).
• attach unofficial transcripts to the Graduate College application from institutions where a bachelor's degree (and graduate degrees, if applicable) is in progress, or was awarded. Unofficial transcripts are required as part of the online application. If admitted to a program, official transcripts will be required at that time.
• If the degree in progress or awarded degree(s) was received at a non-U.S. institution, attach unofficial transcripts to the online application, and send official, sealed transcripts, in the language of instruction to the Graduate College. If the language of instruction is not English, then an official English translation of the transcript is also required. Applicants in certain programs may be required to submit English proficiency exam scores on the TOEFL exam.

International students applying for graduate school at Northern Arizona University must:
• complete the online Application for Graduate Admission.
• pay a $65 nonrefundable application processing fee.
• attach unofficial transcripts to the online application, and send official, sealed transcripts to the Graduate College. Transcripts must be in the original language of the issuing country with an English translation vetted by the issuing institution. Official transcripts must include verification of graduation. If the degree/ diploma is not posted on the transcripts, a separate degree certificate must be included and indicate the degree awarded and date in which it was awarded.
• submit official scores on the TOEFL exam. The University requires a minimum TOEFL score of 80 on the Internet-based test or 550 on the paper-based test (some programs accept the IELTS and NAU requires a minimum IELTS score of 7.0).
• Some programs require a TOEFL/IELTS score that is higher than the University minimum (refer to the list available on the Graduate College Admissions page).
• TOEFL/IELTS is waived for the following international applicants (see exceptions below):
  • Native speaker of English
  • Earned a bachelor's or higher degree from a U.S. university.
  • English was the primary language of instruction at the institution where the student received his/her degree.
• EXCEPTION TO THIS POLICY
  International students who are non-native English speakers who are applying to the MA-TESL program or the PhD program in Applied Linguistics must submit current, official TOEFL or IELTS scores (no more than 2 years old).

Additional Information:
• Transcripts are not required if applying as a non-degree seeking student.
• International graduate students must follow all additional international applicant guidelines outlined on Graduate College website: http://nau.edu/GradCol/Admissions/International
• Please refer to the Applications Deadline page on the Graduate College website listing application deadlines for each program: http://nau.edu/GradCol/Admissions/International/Application-Deadlines