

**Department Chair Meeting Minutes**  
**College of Arts and Sciences**  
**April 1, 2014**

The meeting was called to order at 8:01 a.m. on Tuesday, April 1, 2014. Dr. Vagn K. Hansen, Dean of the College of Arts and Sciences, presided. Department Chairs present: Ms. Chiong-Yiao Chen, Dr. Paul Kittle, Dr. Brent Olive, Dr. Gregory Pitts, Dr. Yaschica Williams, Dr. Larry Adams, Dr. Claudia Vance, Dr. Francis Koti, Dr. Jeff Bibbee for Dr. Christopher Maynard, Dr. Cindy Stenger, LTC Michael Snyder, Dr. David McCullough, Dr. Brenda Webb, Dr. Richard Hudiburg, Dr. Joy Borah, and Dr. Jerri Bullard. Ms. Debbie Tubbs took the minutes.

1. **Approval of Minutes from March 11, 2014.** The minutes were approved by consensus.
2. **Curriculum Change Proposals from the Department of Sociology.** Dr. Bullard made a motion to add CJ 390 *Substance Abuse* as an option in the Family Studies minor and the motion was seconded, discussed, and **adopted**.

Dr. Bullard made a motion to change the credit possible for SO 495 *Internship in Sociological Practice* from 3 to 3-6 credit hours and the motion was seconded, discussed, and **adopted**. During discussion of this proposal Dr. Bullard mentioned that in researching accreditation (The Commission on the Accreditation of Programs in Applied and Clinical Sociology [CAPACS]), this element of providing more internship opportunities would align the department toward their vision for their program.

3. **Curriculum Change Proposal from the Department of Physics and Earth Science.** Dr. Webb made a motion to accept her package proposal for the creation of a new Option III: Geophysics, changing the current Option III: General Science to Option IV: General Science, and creating five new courses, each with a \$50 course fee [ES 350 (4) *Introduction to Geophysics*, ES 365 (3) *Data Analysis in Geophysics*, ES 410 (3) *Tectonics*, ES 420 (4) *Seismology*, and ES 495 (1-3) *Directed Research* which will be cross-listed with the current PH 495 and a \$50 course-fee will be added to PH 495 as well. The motion was seconded, discussed, and **adopted**.

4. **Other.**

-Dr. Pitts provided cards with the five freedoms guaranteed by the First Amendment as part of his department's promotion of First Amendment Awareness Month during April.

-Dr. Hansen stated his appreciation of all faculty/chairs who participated in the student 3MT events and shared his amazement at the quality of work that went into these presentations. Along those lines, he suggested that COM 201 incorporate academic presentations into their speeches as more undergraduates will be making these types of presentations.

-Dr. Hansen shared that he had the opportunity to see the program by Dolores Hydock that is coming to Norton Auditorium on April 8. He encouraged anyone who can attend to take advantage of this amazing opportunity to see a quality production entitled "A Sweet Strangeness Thrills My Heart: The World of Sallie Independence Foster, 1861-1887." Sallie Independence Foster grew up in what is now known as our Rogers Hall. He

mentioned that Louise Huddleston is credited with crucial assistance in the development of the work.

-Dr. Hudiburg asked about summer monies and Dr. Hansen and Dr. Bullard responded with information to the effect that each college has been notified of their percentage of the \$125,000 that is available and the budget transfer has been prepared and we are awaiting the go-ahead from Donna Tipps to proceed.

-Dr. Bullard asked that department chairs encourage their faculty to include in advising their students the advantages of attending summer school at UNA and if students will not be at UNA during the summer to take advantage of on-line courses during the summer to get ahead and/or be able to graduate on time.

The meeting adjourned at 8:41 a.m.

**Undergraduate Curriculum Committee  
Curriculum Change Proposal Form**

**College Name:** Arts and Sciences

**Department Name:** Sociology and Family Studies

Item(s) to be considered by the Undergraduate Curriculum Committee: (please check all spaces relevant to this proposed change)

- |  |  |
|--|--|
| <input type="checkbox"/> Proposed New Course(s)—attach one page syllabus | <input type="checkbox"/> Change in Course Description                        |
| <input type="checkbox"/> Addition Of/Change in Course Fee                | <input type="checkbox"/> *New Major/Option/Concentration/Minor               |
| <input type="checkbox"/> Cross Listing of Course                         | <input checked="" type="checkbox"/> Revised Major/Option/Concentration/Minor |
| <input type="checkbox"/> Inactivation of Course                          | <input type="checkbox"/> New/Revised Certificate Program                     |
| <input type="checkbox"/> Merger of Major/Option/Concentration/Minor      | <input type="checkbox"/> Revised Admission Requirement                       |
| <input type="checkbox"/> Revised Course Number/Title/Credit/Prerequisite | <input type="checkbox"/> Editorial Change                                    |
| <input type="checkbox"/> Other   |  |

Will this proposal result in the need for a revised Faculty Credentials Certification Form? Yes ☐ No ☒

If yes, for whom: \_\_\_\_\_

Will the change require additions or deletions to the Major's Course List? Yes ☐ No ☒

List courses that will be added or deleted for EACH major affected by the curriculum change (see current Major's Courses List). Include major, course number, and title (e.g., "Add to Biology and Marine Biology – BI 498 Study of Pelagic Birds. \_\_\_\_\_

Brief Description and Rationale – (1) include catalog course prefix, proposed number, credit hours, title, description, prerequisite, if any; (2) include relevant information concerning UNA's mission and goals, student learning opportunities, impact on existing programs and financial implications (you must attach a copy of the current catalog page(s) with all suggested changes made using the *Guidelines and Style Manual*):

Add CJ 390 (Substance Abuse) as an option in the Family Studies minor. This course will serve as an option along with CJ 330, NU 324 and SW 420 within the minor.

Proposed Banner Course Title (30 character maximum): \_\_\_\_\_

The proposed change(s) will be effective beginning: Fall semester 2014 year

If Addition of/Change in Course Fee, provide justification: \_\_\_\_\_

List the departments or programs on campus consulted on the issues of duplication, overlap, or impact on program: Criminal Justice

January 23, 2014  
Date Approved by Department Curriculum Committee

Jeri Bullard  
Chair's Signature

April 1, 2014  
Date Approved by College Curriculum Committee\*\*

[Signature]  
Academic Dean's Signature\*\*

\*Proposals within this category require submission and approval by ACHE. Consult the VPAA Office for additional information.

\*\*Courses that are not specific to an academic department/college must be submitted through the VPAA Office and approved by the Council of Academic Deans prior to submission to the Undergraduate Curriculum Committee.

Course	Credit
Three hours from the following: . . . . .	3
<del>Psychology of Close Relationships (PY 450)</del>	
Sociology of Gender and Sexual Behavior (SO 300/WS 300)	
Social Psychology of Intimate Relationships (SO 443/WS 443)	
<del>Psychology of Close Relationships (PY 450)</del>	
Gender Communication (WS 386/COM 386)	
Three hours from the following: . . . . .	3
Domestic Violence (CJ 330)	
<del>Substance Abuse (CJ 390)</del>	
Abusive Behaviors (NU 324)	
Services to Families and Children (SW 420)	
Total	<u>18</u>

Comment [dkt1]: Editorial - Alphabetical

#### REQUIREMENTS FOR A MINOR IN SOCIOLOGY

Course	Credit
Introductory Sociology (SO 221) . . . . .	3
Current Social Problems (SO 222) . . . . .	3
History of Social Thought (SO 423) . . . . .	3
Sociology Electives (including nine hours of 300-400 level) . . . . .	<u>12</u>
Total	21

#### REQUIREMENTS FOR THE CERTIFICATE IN FAMILY LIFE EDUCATION (refer to section on SPECIAL PROGRAMS AND ACTIVITIES)

#### REQUIREMENTS FOR THE CERTIFICATE IN GERONTOLOGY (refer to section on SPECIAL PROGRAMS AND ACTIVITIES)

#### PHILOSOPHY AND RELIGION

Scholarly coursework in philosophy and religion are offered each semester for students wishing to become acquainted with the beliefs, questions, and methods of one or more philosophical or religious traditions.

A minor program in religion and philosophy is offered by the Department of History and Political Science.

#### PREPROFESSIONAL PROGRAMS

The University offers extended opportunities for students to prepare for professions requiring the added specialized preparation of the professional school. Admission to the professional school for some fields requires or gives preference to applicants who already have earned the bachelor's degree; for other fields the University can provide from one to three years of the preparation required for admission or transfer to the professional school. In select programs, students may earn the bachelor's degree from this University on three years'



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**Department Name:** Sociology and Family Studies

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|--|---|
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| <input type="checkbox"/> Addition Of/Change in Course Fee                                    | <input type="checkbox"/> *New Major/Option/Concentration/Minor    |
| <input type="checkbox"/> Cross Listing of Course   | <input type="checkbox"/> Revised Major/Option/Concentration/Minor |
| <input type="checkbox"/> Inactivation of Course  | <input type="checkbox"/> New/Revised Certificate Program          |
| <input type="checkbox"/> Merger of Major/Option/Concentration/Minor                          | <input type="checkbox"/> Revised Admission Requirement            |
| <input checked="" type="checkbox"/> Revised Course Number/Title/ <u>Credit</u> /Prerequisite | <input type="checkbox"/> Editorial Change                         |
| <input type="checkbox"/> Other   |   |

Will this proposal result in the need for a revised Faculty Credentials Certification Form? Yes ☐ No ☒

If yes, for whom: \_\_\_\_\_

Will the change require additions or deletions to the Major's Course List? Yes ☐ No ☒

List courses that will be added or deleted for EACH major affected by the curriculum change (see current Major's Courses List). Include major, course number, and title (e.g., "Add to Biology and Marine Biology – BI 498 Study of Pelagic Birds. \_\_\_\_\_

Brief Description and Rationale – (1) include catalog course prefix, proposed number, credit hours, title, description, prerequisite, if any; (2) include relevant information concerning UNA's mission and goals, student learning opportunities, impact on existing programs and financial implications (you must attach a copy of the current catalog page(s) with all suggested changes made using the *Guidelines and Style Manual*):

Change credit possible for SO 495 Internship in Sociological Practice from 3 credit hours to 3-6 credit hours.

Proposed Banner Course Title (30 character maximum): \_\_\_\_\_

The proposed change(s) will be effective beginning: Fall semester 2014 year

If Addition of/Change in Course Fee, provide justification: \_\_\_\_\_

List the departments or programs on campus consulted on the issues of duplication, overlap, or impact on program: \_\_\_\_\_

January 23, 2014  
Date Approved by Department Curriculum Committee

Terri Bullard  
Chair's Signature

April 1, 2014  
Date Approved by College Curriculum Committee\*\*

[Signature]  
Academic Dean's Signature\*\*

\*Proposals within this category require submission and approval by ACHE. Consult the VPAA Office for additional information.

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SO 410. (3) **Social Change.** The historical aspect of sociocultural change; relationship among economic, psychological, and sociological variables; concepts, processes, and theories; comparative analysis of sociocultural changes in developed and developing societies. Prerequisite: SO 221. (Fall, even-numbered years)

SO 421. (3) **Divided Cultures: A Study of Minority Groups.** This course examines how race, ethnic, and gender differences influence the distribution of and access to opportunity structures in society. Characteristics of global stratification systems, processes of differentiation and ranking and how these processes influence minority groups are explored. Prerequisite: SO 221. (Fall, odd-numbered years)

SO 423. (3) **History of Social Thought.** Theory and methodology in social thought from ancient times to the present. Prerequisite: SO 221. (Fall)

SO 428. (3) **Modern Sociological Theory.** A systematic analysis of trends and developments in sociological theory since the 1920's, with emphasis on current theory and its relationship to research. Prerequisites: SO 221, SO 222, and SO 310. (Spring)

SO 430. (3) **Law and Society.** Analysis of the creation and functioning of law as an element of culture and how law, in its many cultural forms, affects the structure of social institutions and human behavior. Prerequisite: SO 221 or SO/WS 223. (Fall, even-numbered years)

SO 442. (3) **Social Psychology.** The psychology of groups and their influences on the individual. Also listed as PY 442 but creditable only in the field for which registered. Prerequisite: SO 221. (Spring)

SO 443. (3) **Social Psychology of Intimate Relationships.** Social psychological analysis of the development, maintenance, and dissolution of intimate relationships such as friendship, courtship and marriage. Theoretical and empirical examinations of structural, cultural and personal factors affecting attraction, bonding, negotiations of power and gender roles, and conflict, as well as social implications and ramifications of intimacy are discussed. Also listed as WS 443 but creditable only in field for which registered. Prerequisite: SO 221 or SO/WS 223. (Fall)

SO 495. (3-6) **Internship in Sociological Practice.** The internship affords sociology majors the opportunity to put concepts, theory and methods into practice through direct involvement with supervisory personnel in professional work environments related to sociology. Internships involve 150 hours of direct contact work and must be completed during one regular semester or a regular summer term. Prerequisites: completion of general core curriculum; minimum cumulative GPA of 2.80; senior status as defined by hours completed (i.e., 96-128 credit hours); approval of the Sociology Department Chair. (Fall, Spring, Summer)

SO 499. (3) **Independent Study-Practicum.** Open to senior majors on approval of the department chair. Provides for independent study, research, or practical experiences under





**Undergraduate Curriculum Committee  
Curriculum Change Proposal Form**

**College Name:** Arts and Sciences

**Department Name:** Physics and Earth Science

Item(s) to be considered by the Undergraduate Curriculum Committee: (please check all spaces relevant to this proposed change)

- |  |  |
|--|--|
| <input type="checkbox"/> Proposed New Course(s)—attach one page syllabus | <input type="checkbox"/> Change in Course Description                                  |
| <input type="checkbox"/> Addition Of/Change in Course Fee                | <input checked="" type="checkbox"/> *New Major/Option/Concentration/Minor              |
| <input type="checkbox"/> Cross Listing of Course                         | <input type="checkbox"/> Revised Major/Option/Concentration/Minor                      |
| <input type="checkbox"/> Inactivation of Course                          | <input type="checkbox"/> New/Revised Certificate Program                               |
| <input type="checkbox"/> Merger of Major/Option/Concentration/Minor      | <input type="checkbox"/> Revised Admission Requirement                                 |
| <input type="checkbox"/> Revised Course Number/Title/Credit/Prerequisite | <input checked="" type="checkbox"/> Editorial Change – Change current Option III to IV |
| <input type="checkbox"/> Other   |  |

Will this proposal result in the need for a revised Faculty Credentials Certification Form? Yes ☐ No ☒

If yes, for whom: \_\_\_\_\_

Will the change require additions or deletions to the Major's Course List? Yes ☒ No ☐

List courses that will be added or deleted for EACH major affected by the curriculum change (see current Major's Courses List). Include major, course number, and title (e.g., "Add to Biology and Marine Biology – BI 498 Study of Pelagic Birds. Please see the catalog list (attached).

Brief Description and Rationale – (1) include catalog course prefix, proposed number, credit hours, title, description, prerequisite, if any; (2) include relevant information concerning UNA's mission and goals, student learning opportunities, impact on existing programs and financial implications (you must attach a copy of the current catalog page(s) with all suggested changes made using the *Guidelines and Style Manual*):

1. The Department of Physics and Earth Science proposes offering an additional Option to the Physics Major: Geophysics. This option should become Option III and involves an editorial change in the catalog.
2. Rationale: This option opens doors to additional careers in Earth Science sectors for physics majors as it serves to bridge the two areas of disciplines within the department. In a time of emphasis on enhanced management of Earth's resources for sustainability, explorations of alternative energy, and enhanced understanding of plate movement, this option provides broader preparation for entry into the field or graduate schools. The option reflects the University's mission, goals, and strategic plan as it increases graduate's awareness of the inter-relationships of decision-making on national and global-reaching outcomes.
3. Editorial Change--Change the current Option III General Science title to Option IV General Science.

Proposed Banner Course Title (30 character maximum): N/A

The proposed change(s) will be effective beginning: Fall semester 2014 year

If Addition of/Change in Course Fee, provide justification: N/A

List the departments or programs on campus consulted on the issues of duplication, overlap, or impact on program: There is no overlap with any other department.

**November 25, 2013**

Date Approved by Department Curriculum Committee

Brenda A. Webb  
Chair's Signature

April 1, 2014

Date Approved by College Curriculum Committee\*\*

Vern Hoffman  
Academic Dean's Signature\*\*

\*Proposals within this category require submission and approval by ACHE. Consult the VPAA Office for additional information.

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**Option II: General Physics**

**Intermediate Laboratory (PH 356W) .....	4
Electricity and Magnetism (PH 447) .....	3
Classical Dynamics (PH 471) .....	3
Directed Research (PH 495) .....	3
Senior Assessment Seminar (PH 498) .....	1
Physics Electives (300-400 level) .....	12

26

Prescribed Supporting Courses:

**Mathematics, Calculus I, II, III (MA 125, 126, 227) .....	11
Applied Differential Equations I (MA 238) .....	3

3-14

**Option III: Geophysics**

Earth Science: Physical Geology (ES 131) .....	4
Introduction to Geophysics (ES 350) .....	4
Tectonics (ES 410) .....	3
Seismology (ES 420) .....	4
Directed Research (ES 495) .....	2
**Intermediate Laboratory (PH 356W) .....	4
Electricity and Magnetism (PH 447) .....	3
Classical Dynamics (PH 471) .....	3
Senior Assessment Seminar (PH 498) .....	1
Data Analysis in Geophysics (PH 365) .....	3
***Physics Electives (300-400 level) .....	3

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Prescribed Supporting Courses:

*Mathematics, Calculus I, II, III (MA 125, 126, 227) .....	11
Applied Differential Equations (MA 238) .....	3

3-14

**\*\*\*Option III: General Science**

Principles of Biology (BI 111) .....	4
Principles of Biology (BI 112) .....	4
Cell Biology (BI 305) .....	4
Genetics (BI 306) .....	4
General Chemistry (CH 111) and Laboratory (CH 111L) .....	4
General Chemistry (CH 112) and Laboratory (CH 112L) .....	4
Organic Chemistry (CH 311) and Laboratory (CH 311L) .....	5
*Computer Science (CS 135) or higher .....	3
Earth Science/Physical Geology (ES 131) .....	4
Historical Geology (ES 132) .....	4
Calculus I (MA 125) .....	4
Calculus II (MA 126) .....	4

\*Fulfills computer literacy requirement for Option III.

\*\*These courses are required in the major if not completed as a part of the General Education Component.

\*\*\*Option III requires a second major in an approved area.



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Curriculum Change Proposal Form**

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**Department Name:** Physics and Earth Science

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- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Proposed New Course(s)—attach one page syllabus | <input type="checkbox"/> Change in Course Description             |
| <input checked="" type="checkbox"/> Addition Of/Change in Course Fee                | <input type="checkbox"/> *New Major/Option/Concentration/Minor    |
| <input type="checkbox"/> Cross Listing of Course                                    | <input type="checkbox"/> Revised Major/Option/Concentration/Minor |
| <input type="checkbox"/> Inactivation of Course                                     | <input type="checkbox"/> New/Revised Certificate Program          |
| <input type="checkbox"/> Merger of Major/Option/Concentration/Minor                 | <input type="checkbox"/> Revised Admission Requirement            |
| <input type="checkbox"/> Revised Course Number/Title/Credit/Prerequisite            | <input type="checkbox"/> Editorial Change                         |
| <input type="checkbox"/> Other  |   |

Will this proposal result in the need for a revised Faculty Credentials Certification Form? Yes ☒ No ☐

If yes, for whom: Dr. Melissa Driskell

Will the change require additions or deletions to the Major's Course List? Yes ☒ No ☐

List courses that will be added or deleted for EACH major affected by the curriculum change (see current Major's Courses List). Include major, course number, and title (e.g., "Add to Biology and Marine Biology – BI 498 Study of Pelagic Birds. Option III: Geophysics - ES 350 (4) Introduction to Geophysics.

Brief Description and Rationale – (1) include catalog course prefix, proposed number, credit hours, title, description, prerequisite, if any; (2) include relevant information concerning UNA's mission and goals, student learning opportunities, impact on existing programs and financial implications (you must attach a copy of the current catalog page(s) with all suggested changes made using the *Guidelines and Style Manual*):

1. Create new course, ES 350 (4) Introduction to Geophysics, for the proposed Option III: Geophysics.
2. Rationale: This course is foundational to understanding the application of physics in understanding Earth.
3. Include Course fee: \$50.00.

Proposed Banner Course Title (30 character maximum): ES 350 Intro to Geophysics

The proposed change(s) will be effective beginning: Fall semester 2014 year

If Addition of/Change in Course Fee, provide justification: Science courses require purchases of materials and equipment to support learning.

List the departments or programs on campus consulted on the issues of duplication, overlap, or impact on program: This proposed course does not affect any other departments.

November 25, 2013

Date Approved by Department Curriculum Committee

Brenda H. Webb  
Chair's Signature

April 1, 2014  
Date Approved by College Curriculum Committee\*\*

V. K. H. H.  
Academic Dean's Signature\*\*

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\*ES 133. (4) **Earth Science.** Major concepts of meteorology, oceanography, and astronomy with selected examples of interrelationships. Three class periods; one 2-hour laboratory period each week. Field trips and/or term projects may be required. Course fee: \$50.00. (Fall, Spring)

ES 245. (4) **Mineralogy.** Crystal chemistry, crystallography; physical properties of minerals; mineral stability, identification, and occurrence. Three class periods; one 2-hour laboratory per week. Field trips and/or term projects may be required. Prerequisite: ES 131. Course fee: \$50.00. (Spring, odd numbered years)

ES 308. (3) **Science for the Elementary School Teacher.** Selected topics from elementary school science teaching units, including biology, chemistry, physics, geology, astronomy, and meteorology; practical techniques in the development and use of teaching materials and science equipment, the collection and preservation of specimens, and demonstration; consideration of the role of science in the elementary school; study of new curricula. This course cannot be used as a 300-level elective in any major or minor other than Elementary Education. Prerequisites: BI 101, 102; ES 131, PH 101 and ABI/FBI background clearance. Course fee: \$50.00. (Fall, Spring)

ES 330. (3) **Meteorology.** Components of weather systems; atmospheric temperature, pressure, and humidity; interpretation of weather maps and elements of forecasting. Also listed as GE 330 but creditable only in field for which registered. Field trips and/or term projects may be required. Prerequisite: ES 131 or GE 111 or GE 112 or departmental approval. (Fall)

ES 350. (4) **Introduction to Geophysics.** A geophysics course in which physics is applied to studies of Earth structure and dynamics from crust to core. The study includes exploring geophysical tools like seismology, gravity, magnetism, heat flow, and geodesy which are used to understand the age, whole-earth and near-surface structure, and to quantify the kinematics and dynamics of plate tectonics. Three class periods each week and one two-hour laboratory each week. Concurrent enrollment in laboratory required. Prerequisites: PH 251 and MA 125. Course fee: \$50.00. (Fall, and upon sufficient demand)

ES 365. (3). **Data Analysis in Geophysics.** Emphasis is placed on manipulation and analysis of geophysical data in a Unix/Linux environment. Topics will include Unix, programming in MATLAB®, scripting (sh and csh), AWK, Seismic Analysis Code (SAC), Generic Mapping Tools (GMT) and Adobe Illustrator, and an overview of Fortran and C. Students will acquire a working knowledge of a wide range of scientific programming and scripting languages implemented by geoscientists. Three class periods each week. Prerequisite: ES 131, ES 350 or departmental approval. Course fee: \$50.00. (Spring and upon sufficient demand)

ES 375. (3) **Technology and the Environment.** A course designed to acquaint the student with the dynamic state of our technological world; interrelationships of pollution, energy, natural resources, food, and populations, with emphasis on human health issues. Field trips and/or term projects may be required. Prerequisite: advanced standing or departmental approval. (Spring, odd-numbered years)

Department of Physics and Earth Science

ES 350 Introduction to Geophysics: Proposed Course

Faculty: Dr. Melissa Driskell

Course Description: ES 350 (4) **Introduction to Geophysics and Earth Science**. A geophysics course in which physics is applied to studies of Earth structure and dynamics from crust to core. The study includes exploring geophysical tools like seismology, gravity, magnetism, heat flow, and geodesy which are used to understand the age, whole-Earth and near-surface structure, and to quantify the kinematics and dynamics of plate tectonics. Three class periods each week and one two-hour laboratory each week. Prerequisites: PH 251 and MA 125. Course fee: \$50.00. (Fall and upon sufficient demand)

Required Text: Fowler, C. (2005). *The Solid Earth: An Introduction to Global Geophysics, 2nd Edition*, Cambridge University Press.

Content:

- Introduction
- Plate Tectonics and Geodynamics
- Seismology: Earth imaging and earthquake characterization
- Earth Gravity
- Geochronology
- Internal Heat Engine
- Deep Earth Structure
- Lithospheric Structure
- Emergent Geophysics

Grading:

Two exams (100 points each)	200
Comprehensive Final exam	100
Literature Review (8 @ 25 points each)	200
Reading quizzes (8 @ 25 points each)	200
Class Project	200
Drop exam grade	-100

A: 800-721, B: 720-641 C: 640-561, D: 560-481, F: <480

ADA Statement:

Accommodations will be made for students in according with the University of North Alabama's ADA Policy. a student who has a disability that inhibits his/her ability to meet course requirements and who desires accommodations must contact the instructor and Developmental Services within the first three class meetings of the semester. The goal is to develop an accommodations plan and to file an American with Disabilities Act Accommodation (ADA) Form. Course requirements will not be waived, but accommodations will be made to allow students to meet course requirements, provided the student acts within the first three class meetings in working with the instructor to develop an accommodation plan. If a disability is identified later in the semester, a non-retroactive accommodation plan will be developed at that time.



**Undergraduate Curriculum Committee  
Curriculum Change Proposal Form**

**College Name:** Arts and Sciences    **Department Name:** Physics and Earth Science

Item(s) to be considered by the Undergraduate Curriculum Committee: (please check all spaces relevant to this proposed change)

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Proposed New Course(s)—attach one page syllabus | <input type="checkbox"/> Change in Course Description             |
| <input checked="" type="checkbox"/> Addition Of/Change in Course Fee                | <input type="checkbox"/> *New Major/Option/Concentration/Minor    |
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| <input type="checkbox"/> Inactivation of Course                                     | <input type="checkbox"/> New/Revised Certificate Program          |
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| <input type="checkbox"/> Other  |   |

Will this proposal result in the need for a revised Faculty Credentials Certification Form? Yes ☒ No ☐

If yes, for whom: Dr. Melissa Driskell

Will the change require additions or deletions to the Major's Course List? Yes ☒ No ☐

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Brief Description and Rationale – (1) include catalog course prefix, proposed number, credit hours, title, description, prerequisite, if any; (2) include relevant information concerning UNA's mission and goals, student learning opportunities, impact on existing programs and financial implications (you must attach a copy of the current catalog page(s) with all suggested changes made using the *Guidelines and Style Manual*):

1. Create course, ES 365 (3) Data Analysis in Geophysics, for proposed Physics Option III: Geophysics.
2. Rationale: This course provides experience of managing and analyzing geophysical data through programming and scripting languages used by geoscientists.
3. Add Course fee: \$50.00.

Proposed Banner Course Title (30 character maximum): Data Analysis in Geophysics  
The proposed change(s) will be effective beginning: Fall semester 2014 year  
If Addition of/Change in Course Fee, provide justification: Science courses require purchases of materials and equipment to support learning.

List the departments or programs on campus consulted on the issues of duplication, overlap, or impact on program: No other departments are impacted by this course.

November 25, 2013  
Date Approved by Department Curriculum Committee

Brenda L. Gilebb  
Chair's Signature

April 1, 2014  
Date Approved by College Curriculum Committee\*\*

V. K. H.  
Academic Dean's Signature\*\*

\*Proposals within this category require submission and approval by ACHE. Consult the VPAA Office for additional information.

\*\*Courses that are not specific to an academic department/college must be submitted through the VPAA Office and approved by the Council of Academic Deans prior to submission to the Undergraduate Curriculum Committee.



\*ES 133. (4) **Earth Science.** Major concepts of meteorology, oceanography, and astronomy with selected examples of interrelationships. Three class periods; one 2-hour laboratory period each week. Field trips and/or term projects may be required. Course fee: \$50.00. (Fall, Spring)

ES 245. (4) **Mineralogy.** Crystal chemistry, crystallography; physical properties of minerals; mineral stability, identification, and occurrence. Three class periods; one 2-hour laboratory per week. Field trips and/or term projects may be required. Prerequisite: ES 131. Course fee: \$50.00. (Spring, odd numbered years)

ES 308. (3) **Science for the Elementary School Teacher.** Selected topics from elementary school science teaching units, including biology, chemistry, physics, geology, astronomy, and meteorology; practical techniques in the development and use of teaching materials and science equipment, the collection and preservation of specimens, and demonstration; consideration of the role of science in the elementary school; study of new curricula. This course cannot be used as a 300-level elective in any major or minor other than Elementary Education. Prerequisites: BI 101, 102; ES 131, PH 101 and ABI/FBI background clearance. Course fee: \$50.00. (Fall, Spring)

ES 330. (3) **Meteorology.** Components of weather systems; atmospheric temperature, pressure, and humidity; interpretation of weather maps and elements of forecasting. Also listed as GE 330 but creditable only in field for which registered. Field trips and/or term projects may be required. Prerequisite: ES 131 or GE 111 or GE 112 or departmental approval. (Fall)

ES 350. (4) **Introduction to Geophysics.** A geophysics course in which physics is applied to studies of Earth structure and dynamics from crust to core. The study includes exploring geophysical tools like seismology, gravity, magnetism, heat flow, and geodesy which are used to understand the age, whole-earth and near-surface structure, and to quantify the kinematics and dynamics of plate tectonics. Three class periods each week and one two-hour laboratory each week. Concurrent enrollment in laboratory required. Prerequisites: PH 251 and MA 125. Course fee: \$50.00. (Fall, and upon sufficient demand)

ES 365. (3). **Data Analysis in Geophysics.** Emphasis is placed on manipulation and analysis of geophysical data in a Unix/Linux environment. Topics will include Unix, programming in MATLAB®, scripting (sh and csh), AWK, Seismic Analysis Code (SAC), Generic Mapping Tools (GMT) and Adobe Illustrator, and an overview of Fortran and C. Students will acquire a working knowledge of a wide range of scientific programming and scripting languages implemented by geoscientists. Three class periods each week. Prerequisite: ES 131, ES 350 or departmental approval. Course fee: \$50.00. (Spring and upon sufficient demand)

ES 375. (3) **Technology and the Environment.** A course designed to acquaint the student with the dynamic state of our technological world; interrelationships of pollution, energy, natural resources, food, and populations, with emphasis on human health issues. Field trips and/or term projects may be required. Prerequisite: advanced standing or departmental approval. (Spring, odd-numbered years)



## ES 365 Data Analysis in Geophysics: Proposed Syllabus

**Faculty:** Dr. Melissa Driskell

**Course Description:** ES 365 (3) **Data Analysis in Geophysics.** Emphasis is placed on manipulation and analysis of geophysical data in a Unix/Linux environment. Topics will include Unix, programming in MATLAB®, scripting (sh and csh), AWK, Seismic Analysis Code (SAC), Generic Mapping Tools (GMT) and Adobe Illustrator, and an overview of Fortran and C. Students will acquire a working knowledge of a wide range of scientific programming and scripting languages implemented by geoscientists. Three class periods and one 2 hour laboratory each week. (Spring) \$ 50.00 Course fee.

**Text:** *Unix and Linux Visual Quickstart Guide*, fourth addition, D.S. Ray and E.J. Ray and Web Resources

**Course Content** includes, but is not limited to:

- Introduction & Operating Systems
- Unix Philosophy, Account Information, Directory Structure
- Common Commands
- Shells and Your Unix Environment
- File Permissions and Text Editing
- Manipulating and Printing Files; Regular Expressions
- IRIS
- Introduction and Matrices
- Math and Operations
- Matrices; Functions; and Graphics
- Programming 1; 2; and 3
- Matlab and SAC Formatted Data
- Basic Scripting
- Loops and Logic
- Awk 1 and 2
- Basic Data Manipulation
- Filtering and Spectra Analysis
- Blackboard Variables & Macros
- Basic and Plotting in X-Y Space
- Maps
- GUIs
- Fortran

### **Grading Policy:**

A—90 and above; B 80-89; C 70-79; D 60-69; F <60-- 70% homework; 20% final project; 10% classroom

**ADA:** Accommodations will be made for students in according with the University of North Alabama's ADA Policy. a student who has a disability that inhibits his/her ability to meet course requirements and who desires accommodations must contact the instructor and Developmental Services within the first three class meetings of the semester. The goal is to develop an accommodations plan and to file an American with Disabilities Act Accommodation (ADA) Form. Course requirements will not be waived, but accommodations will be made to allow students to meet course requirements, provided the student acts within the first three class meetings in working with the instructor to develop an accommodation plan. If a disability is identified later in the semester, a non-retroactive accommodation plan will be developed at that time.

**Undergraduate Curriculum Committee  
Curriculum Change Proposal Form**

**College Name:** Arts and Sciences

**Department Name:** Physics and Earth Science

Item(s) to be considered by the Undergraduate Curriculum Committee: (please check all spaces relevant to this proposed change)

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> <u>Proposed New Course(s)</u> —attach one page syllabus | <input type="checkbox"/> Change in Course Description             |
| <input checked="" type="checkbox"/> <u>Addition Of/Change in Course Fee</u>                 | <input type="checkbox"/> *New Major/Option/Concentration/Minor    |
| <input type="checkbox"/> Cross Listing of Course  | <input type="checkbox"/> Revised Major/Option/Concentration/Minor |
| <input type="checkbox"/> Inactivation of Course   | <input type="checkbox"/> New/Revised Certificate Program          |
| <input type="checkbox"/> Merger of Major/Option/Concentration/Minor                         | <input type="checkbox"/> Revised Admission Requirement            |
| <input type="checkbox"/> Revised Course Number/Title/Credit/Prerequisite                    | <input type="checkbox"/> Editorial Change                         |
| <input type="checkbox"/> Other  |   |

Will this proposal result in the need for a revised Faculty Credentials Certification Form? Yes ☒ No ☐

If yes, for whom: Dr. Melissa Driskell

Will the change require additions or deletions to the Major's Course List? Yes ☒ No ☐

List courses that will be added or deleted for EACH major affected by the curriculum change (see current Major's Courses List). Include major, course number, and title (e.g., "Add to Biology and Marine Biology – BI 498 Study of Pelagic Birds. Option III: Geophysics - ES 410 (3) Tectonics.

Brief Description and Rationale – (1) include catalog course prefix, proposed number, credit hours, title, description, prerequisite, if any; (2) include relevant information concerning UNA's mission and goals, student learning opportunities, impact on existing programs and financial implications (you must attach a copy of the current catalog page(s) with all suggested changes made using the *Guidelines and Style Manual*):

1. Create course, ES 410 (3) Tectonics, and add to the required course list of proposed Physics Option III majors.
2. Rationale: This course is fundamental in understanding Earth's tectonic processes on local to global scales. Understanding global scale to understand regional/local processes reflects university's goals and strategies.
3. Include Course Fee: \$50.00.

Proposed Banner Course Title (30 character maximum): ES 410 (3) Tectonics  
The proposed change(s) will be effective beginning: Fall semester 2014 year  
If Addition of/Change in Course Fee, provide justification: Science courses require the purchase of materials to support learning.

List the departments or programs on campus consulted on the issues of duplication, overlap, or impact on program: No other departments are impacted by this proposed course.

November 25, 2014

Date Approved by Department Curriculum Committee

Brenda W. Webb  
Chair's Signature

April 1, 2014

Date Approved by College Curriculum Committee\*\*

V. Kottan  
Academic Dean's Signature\*\*

\*Proposals within this category require submission and approval by ACHE. Consult the VPAA Office for additional information.

\*\*Courses that are not specific to an academic department/college must be submitted through the VPAA Office and approved by the Council of Academic Deans prior to submission to the Undergraduate Curriculum Committee.

ES 410 (3). **Tectonics.** Plate tectonics is the fundamental theory in geology that illuminates dynamic Earth processes. The theory explains the volcanoes, earthquakes, mountain, and the oceans. Students will investigate topics such as historical continental drift, earthquakes, subduction zones, the creation and destruction of the ocean floor, and mountain building and interpret data relates to these. Three class periods each week. Prerequisite: ES 131 or ES 133. Course fee: \$50.00. (Fall, and upon sufficient demand)

ES 420 (4). **Seismology.** This course provides an introduction to concepts in seismology. Studies include wave propagation in the Earth as well as constraints on Earth structure and earthquake rupture. Topics covered include: body waves to surface waves, ray theory, development of the wave equation, source theory, and array seismic tomography. Techniques will be introduced in single wave propagation, array seismology with large data sets, seismic tomography, seismic anisotropy, introduction to inverse theory, signal processing, and reflection seismology. Applications and seismic image analysis relevant to plate tectonics, earthquakes, and the Earth's interior will be discussed. Three class periods each week and one two-hour laboratory each week. Concurrent enrollment in laboratory required. Prerequisite: ES 131, ES 350 or departmental approval Course fee: \$50.00. (Spring, and upon sufficient demand)

ES 431. (3) **Structural Geology.** The nature, classification, origin, and quantification of geologic structures, with emphasis on sedimentary rocks. Field trips and/or term projects may be required. Prerequisite: ES 131. (Fall, odd-numbered years)

ES 431L. (1) **Structural Geology Laboratory.** Laboratory analysis, including computer mapping of folds, faults, and other structural features. Laboratory exercises are designed to develop computer skills. Required for geology major. One 2-hour laboratory period per week. Prerequisite: concurrent enrollment in ES 431. (Fall, odd-numbered years)

ES 455W. (4) **Paleobiology.** Fundamental biological problems, including speciation, systematics, evolution, extinction, functional morphology, paleoecology, and biogeography will be addressed from the perspective of the fossil record. Three class periods; one 2-hour laboratory per week. Field trips and/or term projects may be required. Also listed as BI 455W but creditable only in the field for which registered. Prerequisite: ES 132 or departmental approval. Course fee: \$50.00. (Fall, even-numbered years)

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\*Course may not transfer for general education program credit.



Department of Physics and Earth Science  
ES 410 Tectonics: Proposed Course

**Faculty:** Dr. Melissa Driskell

**Course Description:** ES 410 (3) **Tectonics.** Plate tectonic is the fundamental theory in geology that illuminates dynamic Earth processes. The theory explains the volcanoes, earthquakes, mountain, and the oceans. Students will investigate topics such as historical continental drift, earthquakes, subduction zones, the creation and destruction of the ocean floor, and mountain building and interpret data relates to these. Three class periods. Prerequisite: ES 131. Course Fee \$50.00. (Fall and upon sufficient demand)

**Content and Skills:** Students will demonstrate knowledge of:

Plate motions, isostasy, earthquake focal mechanisms, and Euler Poles;  
Earth dynamics on the geologic time scale; and  
Geologic processes at plate boundaries

Students will be able to demonstrate skills to:

Interpret a variety of maps;  
Assimilate and analyze data related to diverse topics;  
Communicate by writing a scientific research paper that summarizes the geologic history of a plate tectonic boundary; and  
Communicate ideas and opinions on geologic topics orally.

**Text:** P. Kearey. K. Klepeis, & F. Vine (2009). *Global Tectonics*, third edition. Wiley: Blackwell Science: NJ. All readings assigned in the tentative schedule are from this text. Additional readings may be assigned as necessary.

<b>EVALUATION:</b> Three exams (100 points each)	300
Literature Review (8 @ 25 points each)	200
Homework	200
Research Paper	200
Drop exam grade	<u>-100</u>
	1000

**GRADES:**

A: 90%--100% points, B: 80%--89% points, C: 70%--79% D: 60%--69%, F < 60%

**ADA Statement :**

In accordance with the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973, the University offers reasonable accommodations to students with eligible documented learning, physical and/or psychological disabilities. Under Title II of the Americans with Disabilities Act (ADA) of 1990 and Section 504 of the Rehabilitation Act of 1973, a disability is defined as a physical or mental impairment that substantially limits one or more major life activities as compared to an average person in the population. It is the responsibility of the student to contact Developmental Services prior to the beginning of the semester to initiate the accommodation process and to notify instructors within the first three class meetings to develop an accommodation plan. Appropriate, reasonable accommodations will be made to allow each student to meet course requirements, but no fundamental or substantial alteration of academic standards will be made. Students needing assistance should contact Developmental Services.

**Undergraduate Curriculum Committee  
Curriculum Change Proposal Form**

**College Name:** Arts and Sciences

**Department Name:** Physics and Earth Science

Item(s) to be considered by the Undergraduate Curriculum Committee: (please check all spaces relevant to this proposed change)

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Proposed New Course(s)—attach one page syllabus | <input type="checkbox"/> Change in Course Description             |
| <input checked="" type="checkbox"/> Addition Of/Change in Course Fee                | <input type="checkbox"/> *New Major/Option/Concentration/Minor    |
| <input type="checkbox"/> Cross Listing of Course                                    | <input type="checkbox"/> Revised Major/Option/Concentration/Minor |
| <input type="checkbox"/> Inactivation of Course                                     | <input type="checkbox"/> New/Revised Certificate Program          |
| <input type="checkbox"/> Merger of Major/Option/Concentration/Minor                 | <input type="checkbox"/> Revised Admission Requirement            |
| <input type="checkbox"/> Revised Course Number/Title/Credit/Prerequisite            | <input type="checkbox"/> Editorial Change                         |
| <input type="checkbox"/> Other  |   |

Will this proposal result in the need for a revised Faculty Credentials Certification Form? Yes ☒ No ☐

If yes, for whom: Dr. Melissa Driskell

Will the change require additions or deletions to the Major's Course List? Yes ☒ No ☐

List courses that will be added or deleted for EACH major affected by the curriculum change (see current Major's Courses List). Include major, course number, and title (e.g., "Add to Biology and Marine Biology – BI 498 Study of Pelagic Birds. Option III: Geophysics - ES 420 (4) Seismology

Brief Description and Rationale – (1) include catalog course prefix, proposed number, credit hours, title, description, prerequisite, if any; (2) include relevant information concerning UNA's mission and goals, student learning opportunities, impact on existing programs and financial implications (you must attach a copy of the current catalog page(s) with all suggested changes made using the *Guidelines and Style Manual*):

1. Create course, ES 420 (4) Seismology, and add to the required course list for Option III: Geophysics.
2. Rationale: This course supports critical understanding of energy waves within and on the surface of Earth.
3. Include Course fee: \$50.00.

Proposed Banner Course Title (30 character maximum): ES 420 (4) Seismology

The proposed change(s) will be effective beginning: Fall semester 2014 year

If Addition of/Change in Course Fee, provide justification: Science courses require materials and equipment to support learning.

List the departments or programs on campus consulted on the issues of duplication, overlap, or impact on program: No other departments are impacted by the proposed course.

November 25, 2013

Date Approved by Department Curriculum Committee

Brenda H. Webb  
Chair's Signature

April 1, 2014

Date Approved by College Curriculum Committee\*\*

V. K. H.  
Academic Dean's Signature\*\*

\*Proposals within this category require submission and approval by ACHE. Consult the VPAA Office for additional information.

\*\*Courses that are not specific to an academic department/college must be submitted through the VPAA Office and approved by the Council of Academic Deans prior to submission to the Undergraduate Curriculum Committee.

ES 410 (3). **Tectonics.** Plate tectonics is the fundamental theory in geology that illuminates dynamic Earth processes. The theory explains the volcanoes, earthquakes, mountain, and the oceans. Students will investigate topics such as historical continental drift, earthquakes, subduction zones, the creation and destruction of the ocean floor, and mountain building and interpret data relates to these. Three class periods each week. Prerequisite: ES 131 or ES 133. Course fee: \$50.00. (Fall, and upon sufficient demand)

ES 420 (4). **Seismology.** This course provides an introduction to concepts in seismology. Studies include wave propagation in the Earth as well as constraints on Earth structure and earthquake rupture. Topics covered include: body waves to surface waves, ray theory, development of the wave equation, source theory, and array seismic tomography. Techniques will be introduced in single wave propagation, array seismology with large data sets, seismic tomography, seismic anisotropy, introduction to inverse theory, signal processing, and reflection seismology. Applications and seismic image analysis relevant to plate tectonics, earthquakes, and the Earth's interior will be discussed. Three class periods each week and one two-hour laboratory each week. Concurrent enrollment in laboratory required. Prerequisite: ES 131, ES 350 or departmental approval Course fee: \$50.00. (Spring, and upon sufficient demand)

ES 431. (3) **Structural Geology.** The nature, classification, origin, and quantification of geologic structures, with emphasis on sedimentary rocks. Field trips and/or term projects may be required. Prerequisite: ES 131. (Fall, odd-numbered years)

ES 431L. (1) **Structural Geology Laboratory.** Laboratory analysis, including computer mapping of folds, faults, and other structural features. Laboratory exercises are designed to develop computer skills. Required for geology major. One 2-hour laboratory period per week. Prerequisite: concurrent enrollment in ES 431. (Fall, odd-numbered years)

ES 455W. (4) **Paleobiology.** Fundamental biological problems, including speciation, systematics, evolution, extinction, functional morphology, paleoecology, and biogeography will be addressed from the perspective of the fossil record. Three class periods; one 2-hour laboratory per week. Field trips and/or term projects may be required. Also listed as BI 455W but creditable only in the field for which registered. Prerequisite: ES 132 or departmental approval. Course fee: \$50.00. (Fall, even-numbered years)

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\*Course may not transfer for general education program credit.

## Department of Physics and Earth Science

### ES 420 Seismology: Proposed Course

Faculty: Dr. Melissa Driskell

Course Description: ES 420 (4) Seismology. This course provides an introduction to concepts in seismology. Studies include wave propagation in the Earth as well as constraints on Earth structure and earthquake rupture. Topics covered include: body waves to surface waves, ray theory, development of the wave equation, source theory, and array seismic tomography. Techniques will be introduced in single wave propagation, array seismology with large data sets, seismic tomography, seismic anisotropy, introduction to inverse theory, signal processing, and reflection seismology. Applications and seismic image analysis relevant to plate tectonics, earthquakes, and the Earth's interior will be discussed. Three classes each week and one two-hour laboratory each week. Course fee: \$50.00 (Spring and upon sufficient demand)

#### Content for Lecture and Laboratory

Introduction; Unix Intro  
Math Review—Stress, Strain; Advanced Unix  
1D Seismic Wave Equation and some Solutions; Finite Wave Propagation Simulation  
Source Theory and Earthquake Magnitude; Coulomb Stress  
Ray Theory/Travel Times; Ray Tracing  
Surface Waves; East Pacific Rise/Synthetic Seismograms  
Project Preparation; Global Data Sources  
Waveform Modeling and Synthetic Seismograms

#### Grading

Three exams (100 points each)	300
Literature Review (8 @ 25 points each)	200
Lab Exercises (8 @ 25 points each)	300
Class Project	200
Drop exam grade	<u>-100</u>
	900

A: 900-810 points, B: 819-720 points, C: 719-630 points, D: 629-540 points, F: <540

#### ADA policy:

It is the policy of UNA to afford equal opportunity in education to qualified students. Therefore, a student who has a disability that inhibits the student's ability to meet course requirements and who desires accommodations must contact the instructor and Developmental Services within three class meetings of the semester. The goal is to develop a timely accommodation plan and to file an Americans with Disabilities Act (ADA) Accommodation form. Course requirements will not be waived, but accommodations will be made to allow each student to meet those requirements, provided the student acts within the first three class meetings to work with the instructor to develop an accommodation plan. If the disability is identified later in the semester, a non-retroactive plan will be developed at that time.



**Undergraduate Curriculum Committee  
Curriculum Change Proposal Form**

**College Name:** Arts and Sciences    **Department Name:** Physics and Earth Science

Item(s) to be considered by the Undergraduate Curriculum Committee: (please check all spaces relevant to this proposed change)

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Proposed New Course(s)—attach one page syllabus    | <input type="checkbox"/> Change in Course Description             |
| <input checked="" type="checkbox"/> Addition Of/Change in Course Fee (ES 495 & PH 495) | <input type="checkbox"/> *New Major/Option/Concentration/Minor    |
| <input checked="" type="checkbox"/> Cross Listing of Course                            | <input type="checkbox"/> Revised Major/Option/Concentration/Minor |
| <input type="checkbox"/> Inactivation of Course  | <input type="checkbox"/> New/Revised Certificate Program          |
| <input type="checkbox"/> Merger of Major/Option/Concentration/Minor                    | <input type="checkbox"/> Revised Admission Requirement            |
| <input type="checkbox"/> Revised Course Number/Title/Credit/Prerequisite               | <input type="checkbox"/> Editorial Change                         |
| <input type="checkbox"/> Other   |   |

Will this proposal result in the need for a revised Faculty Credentials Certification Form? Yes ☒ No ☐

If yes, for whom: Dr. Melissa Driskell

Will the change require additions or deletions to the Major's Course List? Yes ☒ No ☐

List courses that will be added or deleted for EACH major affected by the curriculum change (see current Major's Courses List). Include major, course number, and title (e.g., "Add to Biology and Marine Biology – BI 498 Study of Pelagic Birds. Option III: Geophysics - ES 495 (1-3) Directed Research

Brief Description and Rationale – (1) include catalog course prefix, proposed number, credit hours, title, description, prerequisite, if any; (2) include relevant information concerning UNA's mission and goals, student learning opportunities, impact on existing programs and financial implications (you must attach a copy of the current catalog page(s) with all suggested changes made using the *Guidelines and Style Manual*):

1. Create course, ES 495 (1-3) Directed Research, as crosslisting of PH 495 and add to required course list for Physics Option III: Geophysics.
2. Include ES 495 Special Course fee: \$50.00.
3. Add to PH 495--Special Course fee \$50.00

Proposed Banner Course Title (30 character maximum): ES 495 (1-3) Directed Research

The proposed change(s) will be effective beginning: Spring semester    2015 year

If Addition of/Change in Course Fee, provide justification: Science course experiences require materials and equipment to support learning and travel experiences for this research course.

List the departments or programs on campus consulted on the issues of duplication, overlap, or impact on program: This is an in-house cross-listing and does not affect any other department.

November 25, 2013

Date Approved by Department Curriculum Committee

Brenda H. Ziehl  
Chair's Signature

April 1, 2014

Date Approved by College Curriculum Committee\*\*

Van V. Van  
Academic Dean's Signature\*\*

\*Proposals within this category require submission and approval by ACHE. Consult the VPAA Office for additional information.

\*\*Courses that are not specific to an academic department/college must be submitted through the VPAA Office and approved by the Council of Academic Deans prior to submission to the Undergraduate Curriculum Committee.

ES 480-481. (1-4) **Topics in Earth Science.** Topics will be selected from astronomy, environmental science, geology, marine geology, meteorology, and oceanography. Departmental approval required. Course fee: \$50.00 (may be required depending on the topic). (Offered on sufficient demand)

ES 488. (3) **Hydrogeology.** The interrelationships between water and geologic materials and processes, primarily subsurface water. Prerequisite: ES 131. (Spring, even-numbered years)

ES 495 (1-3) **Directed Research.** Experimental, theoretical, or computational investigation of problems in physics under the direction of departmental faculty, with enrollment and projects subject to approval of the department. Formal reports of research progress will be required for credit. Scheduled work and conferences require a minimum of three hours per week per credit hour. May be repeated to a maximum of four credit hours. A maximum of 2 credit hours will be offered during the summer term. Also listed as PH 495 but creditable only in field for which registered. Prerequisite: departmental approval. Course fee: \$50.00 (Summer, Fall, Spring)

### EXIT EXAMINATION (EXIT)

EXIT 000. (0) **Exit Examination.** A non-credit comprehensive examination required in specific majors.

### FINANCE (FI)

Business majors must be admitted to the College of Business before enrolling in junior/senior level courses.

FI 325. (3) **Principles of Real Estate I.** A study of real estate fundamentals including problems and law. (Fall, Spring)

FI 326. (3) **Principles of Real Estate II.** Principles of property utilization; the law dealing with ownership, titles, liens, leases, and contracts; introduction to property appraisal. (Offered on sufficient demand)

FI 327. (1) **Real Estate Practicum.** An intensive study of Alabama Real Estate Law including a study of requirements for obtaining and keeping a real estate license. With FI 325, satisfies the 60 hours of formal education required prior to taking the examination for a Alabama real estate sales person's license. (Fall, Spring)

FI 335. (3) **Real Estate Cases.** A study of practical real estate problems and law with emphasis placed on actual cases which practitioners might face. (Offered on sufficient demand)

FI 355. (3) **Principles of Insurance.** A study of risk management and provisions of basic insurance contracts, including life, property, liability, and health insurance. (Offered on sufficient demand)

FI 365. (3) **Property and Casualty Insurance.** Coverages, policy provisions, and concepts in property and casualty insurance. (Offered on sufficient demand)

FI 375. (3) **Life and Health Insurance.** An introductory study of life and health insurance. (Offered on sufficient demand)

FI 385. (3) **Entrepreneurial Finance.** Focusing on the basic principles of financial management, topics covered include working capital management, including management of cash,

PH 456. (3) **Thermodynamics and Statistical Mechanics.** Elements of classical statistical mechanics and thermodynamics, with an introduction to quantum statistical mechanics. Also listed as CH 456 but creditable only in field for which registered. Prerequisites: MA 122 or 126 or concurrently, PH 252. (Offered on sufficient demand)

PH 471. (3) **Classical Dynamics.** Statics and kinematics of particles and rigid bodies including periodic motion. Prerequisites: PH 252, MA 122 or 126 or concurrently. (Fall, odd-numbered years)

PH 480-489. (1-6) **Topics in Physics.** Topics will be selected from electronic instrumentation, optics, spectroscopy, nuclear physics, solid state physics, statistical mechanics, advanced quantum mechanics, and mathematical physics. Departmental approval required. Course fee: \$50.00. (Offered on sufficient demand)

PH 495. (1-3) **Directed Research.** Experimental, theoretical, or computational investigation of problems in physics under the direction of departmental faculty, with enrollment and projects subject to prior approval of the department. Formal reports of research progress will be required for credit. Scheduled work and conferences require a minimum average of three hours per week per credit hour. May be repeated to a maximum of four credit hours. A maximum of 2 credit hours will be offered during the summer term. **Also listed as ES 495 but creditable only in field for which registered.** Prerequisite: departmental approval required. **Course fee: \$50.00.** (Fall, Spring, Summer)

PH 498. (1) **Senior Assessment Seminar.** In this course, students prepare for national standardized instruments, such as the MFT-Physics and GRE-Physics exams, that use multiple choice questions. In other physics major courses, students do not encounter these type questions. Students will practice solving such questions by depending upon far fewer calculations than are required in other courses. This course requires students to complete the MFT-Physics exam as a pre-test at the beginning of the semester, and as a post-test at the end of the semester. This course is graded Pass/Fail with the pass grade dependent upon completion of the pre- and post-tests and attendance during the weekly seminar. Open to professional physics and general physics majors in their last year of studies. Department approval required. (Fall, Spring)

## PHILOSOPHY (PHL)

PHL 201. (3) **Introduction to Philosophy.** An examination of humanity's quest for wisdom. Emphasis is placed on the ideas, methodologies, and problems of classic and contemporary philosophy. Topics of study may include the nature of human agency and freedom, how meaning and value are derived and justified, threats to a meaningful life, and how these threats might be ameliorated. (Fall, Spring, Summer)

PHL 201H. (3) **Introduction to Philosophy – Honors.** This course is an introduction to philosophy that provides a rigorous intellectual environment for honors students. The course balances a generally historical approach to the philosophical tradition of the West with a topical treatment of important aspects of philosophy such as logic, metaphysics,

Department of Physics and Earth Science  
ES 495 Directed Research: Proposed Course and Cross-listing

Faculty: Dr. Melissa Driskell

ES 495 (1-3) **Directed Research.** Experimental, theoretical, or computational investigations of problems in physics under the direction of departmental faculty, with enrollment and projects subject to prior approval of the department. Formal reports of research progress will be required for credit. Scheduled work and conferences require a minimum of three hours per week per credit hour. may be repeated to a maximum of four credit hours. A maximum of two credit hours will be offered during the summer term. Prerequisite: Departmental approval required. Course fee: \$50.00 (Fall, Spring, Summer)

<u>Learning Objectives</u>	Upon completion of this course, students will demonstrate how to design and conduct, and report research.
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<u>Content</u>	How to design, conduct and report research using models, literature sources, and data from the process related to research topic.
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<u>Assessment</u>	The research project will be assessed either through an external evaluation of posters and oral presentations by an academic audience (Alabama Academy of Science) or by an evaluation of a research paper using rubrics.
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General Requirements: A student performs research under guidance of the faculty mentor. The work is expected to require four-six hours per week. The student presents results of this research in an approved venue.

ADA policy: It is the policy of UNA to afford equal opportunity in education to qualified students. Therefore, a student who has a disability that inhibits the student's ability to meet course requirements and who desires accommodations must contact the instructor and Developmental Services within three class meetings of the semester. The goal is to develop a timely accommodation plan and to file an Americans with Disabilities Act (ADA) Accommodation form. Course requirements will not be waived, but accommodations will be made to allow each student to meet those requirements, provided the student acts within the first three class meetings to work with the instructor to develop an accommodation plan. If the disability is identified later in the semester, a non-retroactive plan will be developed at that time.