New Courses
Texas A&M University
Departmental Request for a New Course
Undergraduate ∗ Graduate ∗ Professional
* Submit original form and attach a course syllabus.*

Form Instructions
1. Course request type: ☐ Undergraduate ☑ Graduate ☐ First Professional (ODS, MD, JD, PharmD, DPM)

2. Request submitted by (Department or Program Name): Aerospace Engineering

3. Course prefix, number and complete title of course: AERO 645 - Failure Mechanics of Engineering Materials

4. Catalog course description (not to exceed 50 words): Introduction and integration of key experimental, theoretical and computational aspects of failure in engineering materials, including metals and their alloys as well as polymers; includes brittle fracture, ductile fracture and brittle-to-ductile transitions.

5. Prerequisite(s): Graduate Classification; MSBN 601.

6. Is this a variable credit course? ☐ Yes ☒ No If yes, from ______ to ______

7. Is this a repeatable course? ☐ Yes ☒ No If yes, this course may be taken ______ times.

8. Will this course be repeated within the same semester? ☐ Yes ☒ No

9. Will this course be submitted to the Core Curriculum Council? ☐ Yes ☒ No

10. How will this course be graded: ☑ Grade ☐ S/U ☐ P/F (CLMD)

10. This course will be:
   a. required for students enrolled in the following degree programs (e.g., B.A. in history) n/a
   b. an elective for students enrolled in the following degree programs (e.g., M.S., Ph.D. in geography) Aerospace Engineering, Materials Science & Engineering

11. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with those departments. Attach approval letters.

12. ☐ I verify that I have reviewed the FAQ for Export Control Basics for Distance Education (http://vpr.tamu.edu/resources/export-controls/export-controls-basics-for-distance-education)

13. Prerequisites & Corequisites: n/a

Approval recommended by:

Vikram K. Kana - AERO Department Head or Program Chair (Type Name & Sign) Date

Mladen Radovic - MSBN Department Head or Program Chair (Type Name & Sign) Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services – 07/14
Course Syllabus

AERO/MSEN 645

Introduction to the Failure Mechanics of Engineering Materials
Spring 2017

INSTRUCTOR: Dr. A. Amine Benzerga
Department of Aerospace Engineering
Department of Materials Science and Engineering
HRBB 736C
Phone: 845-1602
e-mail: benzerga@tamu.edu

Administrative Asst: Miriam Alderete
HRBB 733
Phone: 979-862-4266
e-mail: miriam@aero.tamu.edu

CLASS TIMES: TBD

OFFICE HOURS: TBD

COURSE DESCRIPTION: Introduction and integration of key experimental, theoretical and computational aspects of failure in engineering materials, including metals and their alloys as well as polymers; includes brittle fracture, ductile fracture and brittle-to-ductile transitions.

PREREQUISITES: Graduate student classification; MSEN 601 - Introduction to Materials Science and Engineering

EXPANDED COURSE DESCRIPTION: This course introduces and integrates key experimental, theoretical and computational aspects of failure in engineering materials, including metals and their alloys as well as polymers; topics include: brittle fracture, ductile fracture and brittle-to-ductile transitions. A field theory course and/or MEMA 611 - Fracture Mechanics helpful.

TEXTBOOK:
Typed Lecture Notes:
Ductile Fracture of Metals
A.A. Benzergera, 2014.

Failure of Metals (114 pages)
In Comprehensive Structural Integrity
Pineau and Pardoen
Elsevier, 2007
LEARNING OBJECTIVES: Students will learn (i) how to distinguish between ductile and brittle fracture surfaces using fractography; (ii) the mechanisms of failure at microstructural length scales; (iii) micromechanics models of fracture and plastic flow localization. Students are expected to develop a fundamental understanding of engineering materials failure through a semester-long project. Project can focus on experiments, theory or simulations.

COURSE CONTENT:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>(1)</td>
</tr>
<tr>
<td>1. Failure types, modes and mechanisms</td>
<td>1</td>
</tr>
<tr>
<td>2. Theories of Cleavage</td>
<td>(3)</td>
</tr>
<tr>
<td>2.1 Theoretical cleavage stress</td>
<td>2</td>
</tr>
<tr>
<td>2.2 Dislocation-based theories</td>
<td></td>
</tr>
<tr>
<td>3. Transgranular Cleavage</td>
<td>3</td>
</tr>
<tr>
<td>3.1 Case of ferritic steels</td>
<td></td>
</tr>
<tr>
<td>3.2 Case of other metals</td>
<td></td>
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<tr>
<td>4. Intergranular Fracture</td>
<td>4</td>
</tr>
<tr>
<td>5. Experimental Facts</td>
<td>(7)</td>
</tr>
<tr>
<td>5.1 Macroscopic aspects</td>
<td>5</td>
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<tr>
<td>5.2 Microscopic mechanisms (Fractography)</td>
<td></td>
</tr>
<tr>
<td>5.3 Microscopic Measurements</td>
<td></td>
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<tr>
<td>6. Void Formation and Damage Initiation</td>
<td>6</td>
</tr>
<tr>
<td>6.1 Metal alloys</td>
<td></td>
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<tr>
<td>6.2 Amorphous polymers</td>
<td></td>
</tr>
<tr>
<td>6.3 Semicrystalline polymers</td>
<td></td>
</tr>
<tr>
<td>6.4 Pure metals</td>
<td></td>
</tr>
<tr>
<td>6.5 Void formation at micron and sub-micron scales</td>
<td></td>
</tr>
<tr>
<td>7. Void Growth Theories</td>
<td>7</td>
</tr>
<tr>
<td>7.1 Uncoupled models (triaxiality effects)</td>
<td></td>
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<tr>
<td>7.2 Coupled models (stress state effects)</td>
<td></td>
</tr>
</tbody>
</table>
7.2.1. Elements of homogenization theory
7.2.2. Self-consistent models
7.2.3. Limit-analysis models

8. Void Coalescence
   8.1. Internal necking
   8.2. Void-sheet coalescence
   8.3. Necklace coalescence

9. Plastic Flow Localization
   9.1. Necking in bars and sheets
   9.2. Shear band formation

10. Crack Initiation and Crack Growth
    10.1. Bottom-up (materials science) approach
    10.2. Top-down (materials engineering) approach
    10.3. Initially crack-free specimens
    10.4. Pre-cracked specimens
    10.5. Fracture loci and failure maps of a ductile material

Part C: Ductile-Brittle Transition (DBT)

11. DBT in Fracture Toughness Tests
12. DBT in Charpy Impact Testing
13. Models of DBT

Project Presentations

Total Weeks 14

GRADING:
Homework 30%
Term Project 40%
Final Exam 30%
TOTAL 100%
Method of Evaluation:

Grading percentages will be **Homework 30%, Term Project 40%, and Final Exam 30%**.

Grading Policy: A 90 – 100%, B 80 – 89%, C 70 – 79%, D 60- 69%, F below 60%.

A total of three homework assignments are due every two (2) weeks during the first six (6) weeks. **Homework due during weeks 2, 4, and 6.**

Term project consists of written report and presentation.

**Report due week 12.**

**Presentations during week 14.**

Students will have two weeks to prepare their final presentations in the last week of classes. Two (2) sessions are devoted to this with 20min presentations (15 min + 5 min for questions).

Academic Integrity Statement:

"An Aggie does not lie, cheat, or tolerate those who do."

The Code of Honor is an effort to unify the aims of all Texas A&M men and women toward a high code of ethics and personal dignity. For most, living under this code will be no problem, as it asks nothing of a person that is beyond reason. It only calls for honesty and integrity, characteristics that Aggies have always exemplified. As commonly defined, plagiarism consists of passing off as one's own the ideas, work, writings, etc., that belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. If you have questions regarding plagiarism, please visit [http://aggiehonor.tamu.edu](http://aggiehonor.tamu.edu) and consult the latest issue of the Texas A&M University Student Rules at [http://student-rules.tamu.edu](http://student-rules.tamu.edu). Or, consult the instructor.

Attendance and Make-up Policy:

*Late homework will be accepted for credit only with the consent of the instructor at least 24 hours prior to class on the due date or due to a University excused absence.*

You are responsible for any material covered and/or any assignments given even if absent from class. The university views class attendance as the responsibility of an individual student. Attendance is essential to complete the course successfully. University rules related to excused and unexcused absences are located on-line at: [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07).

**ADA Policy Statement:**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information visit [http://disability.tamu.edu](http://disability.tamu.edu).
Texas A&M University
Departmental Request for a New Course
Undergraduate + Graduate + Professional
Submit original form and attach a course syllabus.

1. Course request type:
   □ Undergraduate  □ Graduate  □ First Professional (DO, MD, JD, PharnD, DVA)

2. Request submitted by (Department or Program Name):
   Department of Agricultural Economics

3. Course prefix, number and complete title of course:
   AGEC 616 Climate Change Considered

4. Catalog course description (not to exceed 50 words):
   Global climate change, including [the physical sciences, [impacts, adaptation, and vulnerability, [mitigation options, and [understanding and addressing the challenges of climate change communication]

5. Prerequisite(s):
   Cross-listed with: GEOS 616
   Stacked with: AGEC 416 & GEOS 416

6. Is this a variable credit course?  □ Yes  □ No
   If yes, from _____ to _____

7. Is this a repeatable course?  □ Yes  □ No
   If yes, this course may be taken _____ times.
   Will this course be repeated within the same semester?  □ Yes
   □ No

8. Will this course be submitted to the Core Curriculum Council?  □ Yes  □ No

9. How will this course be graded:
   □ Grade  □ S/U  □ P/F (CLMD)

10. This course will:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)
   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)

11. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

12. □ I verify that I have reviewed the FAQ for Export Control Basics for Distance Education (http://vcr.tamu.edu/resources/export-control-basics-for-distance-education).

13. For courses marked as Electives or Other, please provide justification:

   AGEC 616 CLIMATE CHANGE CONSIDERED
   Grid
   Date
   Credit
   Unit
   OHE
   UHE
   1.00
   1.00
   1.00
   0S01040002
   140
   0
   0
   3
   3
   3
   2

   Approval recommended by:
   C. Parr Reason
   Department Head or Program Chair (Type Name & Sign)
   Date
   Chair, Curricular Review Committee
   Date
   (if cross-listed course)
   Department Head or Program Chair (Type Name & Sign)
   Date
   Dean of College
   Date

   Submitted to Coordinating Board by:
   Date
   Effective Date
   Associate Director, Curricular Services
   Date
   Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu
   Curricular Services – 07/14
Course Description

Global Climate Change findings and issues, including (i) the physical science aspects, (ii) impacts, adaptation, and vulnerability, (iii) mitigation options, and (iv) understanding and addressing the challenges of climate change communication. This survey course is designed and intended for students from all majors and it will be taught by faculty members from three colleges: Agriculture and Life Sciences; Architecture; and Geosciences.

Course is open to Galveston and other satellite campus students via TTVN.

Prerequisites

Advanced undergraduate standing (junior or senior classification), graduate student standing, or approval of instructor.

Learning Outcomes

Climate change will influence your future, and you will likely have to take climate change into consideration in your future profession, whether it is business, resource management, engineering, regional planning, architecture and construction, agriculture, health care, education, or local to global policy making. Societal decisions regarding our energy future will have to be made, and you will gain an improved understanding so you can participate in the debate over strategies for mitigating or adapting to climate change. Employers will be looking for people with the knowledge to make responsible, information-based decisions. Through this seminar course, you will gain the necessary background to

- Access current projections for global climate change and knowledge of the causes of the change,
- Appraise mitigation options as they affect energy production and environmental quality,
- Assess the vulnerability of entities to climate change and help formulate adaptation options, and
- Communicate on the topic to stakeholders regarding effects and possible policies that address or involve climate change.

You will attain a professional and personal advantage from having such knowledge and gain experience useful to your future employment and participation in societal decision making.

Instructor Background

Texas A&M University has faculty members who are among the world’s experts in climate science and change, societal and human dimensions of climate change, mitigation of and adaptation to climate change, and communicating climate change to the public. They are contributing authors of the Intergovernmental Panel on Climate Change, the U.S. National Climate Assessment reports, other regional and national climate change reports, and hundreds of scientific and scholarly journal articles. Students have an unique opportunity to learn from these individuals and to be better prepared to understand and navigate this important global issue.
Instructor Information

Name Gunnar W. Schade, Department of Atmospheric Sciences
Telephone 979.843.0633
Email address gws@tamu.edu
Office location O&M 1012A

Name Liliana Beltran, Department of Architecture
Telephone 979.845.6545
Email address lbeltran@arch.tamu.edu
Office location Langford A 444

Name Samuel Brody, Dept. of Marine Sciences, Ocean and Coastal Studies
Telephone 409-740-4939
Email address brodys@tamu.edu
Office location Ocean and Coastal Studies Bldg. 366

Name Bruce McCarl, Department of Agricultural Economics
Telephone 979.845.1706
Email address mccarl@tamu.edu
Office location AGLS 373C

Name David Briske and Georgianne Moore, Dept. of Ecosystem Science and Management
Telephone 979.845.5581, 979.845.3765
Email address dbriske@tamu.edu , gmoore@tamu.edu
Office location Center Building 130C, Horticulture and Forest Science Building 316

Name Stuart Carlton, Sea Grant Administration And Program
Telephone 409.740.4983
Email address stuartcarlton@tamu.edu
Office location Ocean and Coastal Studies Building 340H

Textbook and/or Resource Material

The course will be based on national and international climate appraisals and the scientific literature. Fundamental resources will include the Intergovernmental Panel on Climate Change (IPCC) 2013 and 2014 reports (available online at http://www.ipcc), the U.S. National Climate Assessment (available online at http://nca2014.globalchange.gov), and additional readings to be made available online.

Summaries of all materials presented in class will be posted on line prior to class in which they are presented and discussed. Our prime class communication tool will be an http://ecampus.tamu.edu course page that will be populated throughout the semester. It will contain all presentation materials, assigned readings, a dynamic list of short project topics to choose from depending on your major or personal interests, and discussion sessions with the instructors of this class and their special fields. It will thus provide for student-instructor, and student-student communication, including topical discussions on relevant news items.
Group Project

Group projects will be carried out summarizing an area of concern. Graduate student group project(s) will also include a component focused on organizing, communicating, and interpreting the science of climate change to a select peer audience.

Grading Policies

Your letter grade will be composed of four sub-grades:

<table>
<thead>
<tr>
<th>Component</th>
<th>Sub-grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>weekly clicker questions in class to assess your class presence and whether you come prepared to the class sessions (split 50:50 into presence and correct answers, meaning 20% of your grade is awarded for being present and another 20% for answering questions correctly through coming to class prepared)</td>
<td>40%</td>
</tr>
<tr>
<td>short online quizzes about class topics</td>
<td>20%</td>
</tr>
<tr>
<td>a short group project, summarizing a select aspect of the climate issue</td>
<td>30%</td>
</tr>
<tr>
<td>class participation in discussion groups online, and in class depending on class size</td>
<td>10%</td>
</tr>
</tbody>
</table>

Additionally up to 5 bonus points will be awarded for outstanding achievement. Graduate and undergraduate students will be graded independently.

Grading (percentage) Scale: 100-90: A; 89-80: B; 79-66: C; 65-55: D; less than 55: F

Additional Requirements of Graduate Students: Graduate student work will be assessed differently from undergraduate students as follows:

1. Graduate students will be given more time and additional questions on quizzes
2. Graduate students are expected to provide more depth in their group projects, and an extended grading rubric for graduate students will be used for evaluation. In addition, graduate students will be assigned to peer-review undergraduate student projects and give a short presentation of their group project
3. Participating graduate students are encouraged to take a leading role in online discussions, and to organize outreach activities, such as movie presentations to peer groups with post-movie discussions
4. The grade computation for graduate students will use the percentage allocation specified above.
## Course Topics, Calendar of Activities, Major Assignment Dates

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Required Reading / Watching</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Why and how is Earth’s climate changing? (Schade)</td>
<td>“The greenhouse effect”</td>
</tr>
<tr>
<td>2</td>
<td>Consequences of Climate Change (Schade)</td>
<td>IPCC WG1, SPM</td>
</tr>
<tr>
<td>3</td>
<td>Future climate, global and regional changes (Schade)</td>
<td>IPCC WG1, SPM; NCA-3 overview</td>
</tr>
<tr>
<td>4</td>
<td>Climate myths vs. science</td>
<td>TBD</td>
</tr>
<tr>
<td>5</td>
<td>Climate change effects in Texas and society plus broad policy</td>
<td>TBD</td>
</tr>
<tr>
<td>6</td>
<td>approaches to address it (McCarl)</td>
<td>TBD</td>
</tr>
<tr>
<td>7</td>
<td>Directions for and potential analysis of climate change adaptation in multiple sectors (McCarl)</td>
<td>TBD</td>
</tr>
<tr>
<td>8</td>
<td>Directions for and potential analysis of climate change mitigation in multiple sectors (McCarl)</td>
<td>TBD</td>
</tr>
<tr>
<td>9</td>
<td>Climate change implications for land use, urban regions, and sustainability (Brody)</td>
<td>TBD</td>
</tr>
<tr>
<td>10</td>
<td>Climate change implications for ecosystem structure and function (Briske, Moore)</td>
<td>TBD</td>
</tr>
<tr>
<td>11</td>
<td>Green design and construction: Case studies in mitigation and adaptation (Beltran), short project draft due</td>
<td>TBD</td>
</tr>
<tr>
<td>12</td>
<td>Communication and the climate change controversy (Carlton)</td>
<td>Six Americas study</td>
</tr>
<tr>
<td>13</td>
<td>Addressing climate change misinformation (Carlton, Schade)</td>
<td>TBD</td>
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<tr>
<td>14</td>
<td>Group project: presentations and write-up due</td>
<td>TBD</td>
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<tr>
<td></td>
<td>Wrap-up and Synthesis. Movie Party</td>
<td></td>
</tr>
</tbody>
</table>

## Other Pertinent Course Information

E-campus: The course is organized around an ecampus webpage that contains all course materials. Your quizzes will be administered online through the webpage, and your written part of the group project will be submitted through the webpage as well.

Attendance: It is expected not only that you attend class, but that you come prepared via completing the pre-class assignments as posted weekly on the ecampus page. For rules concerning absences please refer to http://student-rules.tamu.edu/rule07.

Clickers: Weekly attendance and question response will be recorded via the use of iclickers, a student response system to evaluate course engagement and knowledge retention. Everything you need to know can be found here: http://hdc.tamu.edu/Academics/Classroom_Equipment/Clickers/index.php, and your personal iclicker, should you not have purchased one already, can be acquired from the A&M bookstore on campus. Note that iclickers can be shared between students unless you are taking the same course.

**Make-Up Policy:** Makeup quizzes and presentation will be given or need to be done within one week of the original quiz or presentation dates, but only for those who have university-excused absences and receive prior approval from the instructor. Missing iclicker scores will be set to the individually student average for any university excused absences.
Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, Students Services at White Creek building # 62, or call 845-1637. For additional information visit http://disability.tamu.edu

Academic Integrity
For additional information please visit: http://aggiehonor.tamu.edu

“An Aggie does not lie, cheat, or steal, or tolerate those who do.”

According to the Texas A&M University Definitions of Academic Misconduct, plagiarism is the appropriation of another person’s ideas, processes, results or words without giving appropriate credit (http://aggiehonor.tamu.edu). You should credit your use of anyone else’s words, graphic images, or ideas using standard citation styles in all of your assignments. If I should discover that you have failed to properly credit sources or have used a paper, or parts of a paper written by someone else, you will receive an F for that assignment and will be assigned a remediation course through the Aggie Honor System Office. Its processes for adjudication and appeals can be found at, and for additional information please visit http://aggiehonor.tamu.edu. Note that faculty are obliged to report any academic dishonesty issues that arise to the Aggie Honor System Office even if the case is resolved between the faculty member and the student. That will be considered the student's first offense. A second offense will lead to more severe consequences, including dismissal from the university.
Texas A&M University

Departmental Request for a New Course
Undergraduate + Graduate + Professional
* Submit original form and attach a course syllabus.

Form Instructions
1. Course request type:
   - Undergraduate
   - Graduate
   - First Professional (D.D.S., M.D., J.D., PharmD, D.V.M.)

2. Request submitted by (Department or Program Name):
   - Bush School of Government and Public Service 3. Course
   - BUSH 602-XX Writing for the Medal of Excellence

3. Course prefix, number and complete title of course:

4. Catalog course description (not to exceed 50 words):
   Students will begin work on the ePortfolio, a required component for the Medal of Excellence. The course focuses on
   guided reflection about students' learning across interdisciplinary experiences, such as participation in the Leadership
   Program, capstone courses, internships, and other high-impact experiences and on writing clear, coherent,
   well-developed reflective essays.

5. Prerequisites(s):
   Admission Into Bush Schools' Master of International Affairs, or Master of Public Service and Administration

   Cross-listed with:
   Stacked with:
   [Cross-listed courses require the signature of both department heads]

6. Is this a variable credit course?
   - Yes
   - No
   If yes, from ________ to ________

7. Is this a repeatable course?
   - Yes
   - No
   If yes, this course may be taken ________ times.

  Will this course be repeated within the same semester?
   - Yes
   - No

8. Will this course be submitted to the Core Curriculum Council?
   - Yes
   - No

9. How will this course be graded?
   - Grade
   - S/U
   - Pass/Fail (CLMD)

10. This course will be:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)
   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)
      Master of International Affairs, Master of Public Service and Administration, and 5-Year Degree Programs

11. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach
    approval letters.

12. I verify that I have reviewed the FAQ for Export Control Basics for Distance Education (http://vpr.tamu.edu/resources/export-
    controls/export-controls-basics-for-distance-education).

13. Prefix Course # Title (excluding punctuation)

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Course #</th>
<th>Title (excluding punctuation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSH</td>
<td>602</td>
<td>MEDAL OF EXCELLENCE WRITING</td>
</tr>
</tbody>
</table>

   Approval recommended by:
   Department Head or Program Chair (Type Name & Sign) Date

   Submitted to Coordinating Board by:
   Associate Director, Curricular Services Date Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services – 07/14
Texas A&M University
Departmental Request for a New Course
Undergraduate * Graduate * Professional
* Submit original form and attach a course syllabus.*

Form Instructions

1. Course request type:  
   - ☐ Undergraduate  ☑ Graduate  ☐ First Professional (DVM, MD, JD, PharmD, DVM)

2. Request submitted by (Department or Program Name):  
   Bush School of Government and Public Service 3. Course

3. Course prefix, number and complete title of course:  
   BUSH 602-600 Writing for the Medal of Excellence

4. Catalog course description (not to exceed 50 words):  
   Students will begin work on the ePortfolio, a required component for the Medal of Excellence. The course focuses on guided reflection about students' learning across interdisciplinary experiences, such as participation in the Leadership Program, capstone courses, internships, and other high-impact experiences and on writing clear, coherent, well-developed reflective essays.

5. Prerequisite(s):  
   Admission into Bush Schools’ Master of International Affairs, or Master of Public Service and Administration

6. Is this a variable credit course?  
   ☑ No  
   If yes, from _______ to _______

7. Is this a repeatable course?  
   ☑ No  
   If yes, this course may be taken ______ times.

   Will this course be repeated within the same semester?  
   ☐ Yes  ☐ No

8. Will this course be submitted to the Core Curriculum Council?  
   ☑ No

9. How will this course be graded:  
   ☑ Grade  ☐ S/U  ☐ P/F (CLMD)

10. This course will be:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)

   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)

   Master of International Affairs, Master of Public Service and Administration, and 5-Year Degree Programs

11. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

12. ☐ I verify that I have reviewed the FAQ for Export Control Basics for Distance Education (http://vpr.tamu.edu/resources/export-controls/export-controls-basics-for-distance-education).

13. Prefix  
   Course #  
   Title (excluding punctuation)  
   BUSH 602  
   MEDAL OF EXCELLENCE WRITING

<table>
<thead>
<tr>
<th>Lect.</th>
<th>Lab</th>
<th>Other</th>
<th>SCH</th>
<th>CRIP and Fund Code</th>
<th>Admin. Unit</th>
<th>Acad. Year</th>
<th>PCE Code</th>
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<tbody>
<tr>
<td>1.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1364</td>
<td>16</td>
<td>17</td>
<td>0 0 3 6 3 2</td>
</tr>
</tbody>
</table>

Approval recommended by:

[Signature]

Department Chair or Program Chair (Type Name & Sign)  
Date  
Chair, College Review Committee  
Date

Department Chair or Program Chair (Type Name & Sign)  
(if cross-listed course)  
Date  
Dean of College  
Date

Submitted to Coordinating Board by:

Chair, GC or UCC  
Date  
Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services – 07/14
Course Description and Prerequisites

Students will begin work on the ePortfolio, a required component for the Medal of Excellence. The course focuses on guided reflection about their learning across interdisciplinary experiences, such as participation in the Leadership Program, capstone courses, internships, and other high-impact experiences and on writing clear, coherent, well-developed reflective essays.

Upon completing the course, students will have submitted and received feedback on several of the required ePortfolio sections for the Medal of Excellence.

What is reflective writing?
Reflective writing prompts you to . . .
- Analyze your work (projects, experiences), mining for meaning
- Identify the pattern or bigger idea that emerges from your analysis, i.e., connecting the dots of your experiences
- Distinguish meaningful “dots” from irrelevant ones as they relate to the big idea
- Articulate the value of the big idea to solving a new problem or addressing a new context

What is a zero-credit (ZSCH) course?
Students enrolled in a ZSCH course are not billed for fees, and they register for the course along with their credit-bearing courses. However, ZSCH courses ARE noted on the student’s transcript, including the grade, but do not count toward a student’s GPA or progress toward the degree or full-time enrollment. In addition, dropped ZSCH courses stay on the student record and will be treated like other courses, with the appropriate grade assigned (Q, W, etc.).

This ePortfolio ZSCH course meets each week during the semester and requires work toward and assessment of ePortfolio units.

Prerequisites: Bush School student
Optional for students pursuing Medal of Excellence, class of 2016
Required for students pursuing Medal of Excellence, class of 2017

Learning Outcomes

In this course students will
- Create an ePortfolio organized by both his or her degree program’s learning outcomes and by the Medal of Excellence requirements.
- Write clear and coherent reflections, documenting where, how, and when learning has occurred and to what degree learning is transferrable to new contexts.
3. Apply best practices for online writing, including the establishment of privacy levels best suited for his or her intended career path.

4. Revise written work to demonstrate strong editing skills.

**Instructor Information**

<table>
<thead>
<tr>
<th>Name</th>
<th>Cindy Raisor</th>
<th>Office hours</th>
<th>M-F (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone number</td>
<td>979-862-8835</td>
<td>Office location</td>
<td>1027 Allen</td>
</tr>
<tr>
<td>Email address</td>
<td><a href="mailto:c-raisor@tamu.edu">c-raisor@tamu.edu</a></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please use email to make appointments with me or to ask questions that can be answered briefly. Do not use email to request feedback from me on assignments or to discuss grades. The best ways for me to help you with more complex issues such as these are via consultations one-on-one in my office (preferred), via phone, or via virtual appointment.

**Resource Material**

Bush School Writing Website at [https://sites.google.com/site/bushschoolwriting/](https://sites.google.com/site/bushschoolwriting/)

ePortfolio Guidelines at [https://sites.google.com/site/busheportfolioguidelines/](https://sites.google.com/site/busheportfolioguidelines/)


Leadership Development Independent Leadership Plan

**Assignments, Participation, and Grading Policies**

While the major assignments include components of the ePortfolio, interim assignments include peer review and editing. Thus, you are expected to attend class and participate in all class activities.

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Audience Profile Memo</td>
<td>20</td>
</tr>
<tr>
<td>2 Biography</td>
<td>20</td>
</tr>
<tr>
<td>3 Lifelong Learning Reflection</td>
<td>20</td>
</tr>
<tr>
<td>4 Project or High-Impact Experience Reflection</td>
<td>20</td>
</tr>
<tr>
<td>5 Participation and Peer Review</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**Standard Letter Grading Scale**

A = 90-100
B = 80-89
C = 70-79
D = 60-69
F = below 60

**Grading Procedures**

Each assignment will be evaluated using a rubric, a set of grading criteria, specific to the assignment and will be returned within one week of the submission.

**Attendance and Participation**

You are expected to attend every class meeting and participate in class discussions and peer review sessions. If you miss class, you are responsible for all material covered and all assignments made. (I
will provide you with handouts during office hours and will be happy to answer any questions you have about material you missed.) Please refer to [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07) for more information on university attendance policies.

- **Submit all assignments on time (by 12 p.m. of the due date).** Late submissions will be accepted without penalty only with **proof of a university-excused absence**. Assignments submitted without proof of university-excused absences will be penalized one letter grade for each day they are late. (Interviews, work, or any other reason for an unexcused absence does not excuse you from submitting work on time.)

- **Submit any work missed (due to an excused absence) within two class days** of your return to class. (Remember that it is your responsibility to inform me of your excused absence and any assignments you need to make up.) Also, no assignments will be accepted after the last class meeting without proof of a university-excused absence that includes the assignment deadline in question.

- **Check all writing assignment resources as you prepare each assignment.** These resources will include writing prompts, rubrics, and may include samples. **CAUTION:** Do NOT use the samples as templates! They are intended to help you understand the context for the assignment but NOT to serve a template for your work.

- **Check over your work to insure it represents professional standards and attention to detail.** Though I use a rubric for each assignment to provide feedback and determine a score, I may award or deduct points beyond the limit for each category, depending on the quality of work in question.

- **Refrain from cell phone use and other distracting behavior.** Please treat this course like a professional obligation. Use the same polite, respectful behavior with your peers and instructor that you will use in the professional world. Thus, please refrain from using your cell phone, including texting, using your personal computer, outside of what is needed for your developing your ePortfolio, and from engaging in other distracting activities. Last, arrive at class on time. Excessive absences and tardies are undeniably unprofessional.

### Course Topics, Calendar of Activities, Major Assignment Due Dates

<table>
<thead>
<tr>
<th>Week of</th>
<th>Topic</th>
<th>Assignment</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aug. 29</td>
<td>Requirements for the Medal of Excellence</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Set up ePortfolio</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Sept. 5</td>
<td>Setting up Your ePortfolio-landing pages</td>
<td>Sept. 9</td>
</tr>
<tr>
<td>3</td>
<td>Sept. 12</td>
<td>Knowing your audience</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Sept. 19</td>
<td>Memo writing</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Sept. 26</td>
<td>Peer review profile memo</td>
<td>Sept. 30</td>
</tr>
<tr>
<td>6</td>
<td>Oct. 3</td>
<td>Developing and editing your biography</td>
<td>Oct. 14</td>
</tr>
<tr>
<td>7</td>
<td>Oct. 10</td>
<td>Peer review biography</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Oct. 17</td>
<td>Fine-tuning your virtual radar</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Oct. 24</td>
<td>Connecting learning to outcomes-scenarios</td>
<td>Lifelong learning reflection</td>
</tr>
<tr>
<td>10</td>
<td>Oct. 31</td>
<td>Developing and editing reflections</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Nov. 7</td>
<td>Peer review lifelong learning reflection</td>
<td>Nov. 11</td>
</tr>
<tr>
<td>12</td>
<td>Nov. 14</td>
<td>Writing about courses and projects</td>
<td>Project or HIE reflection</td>
</tr>
<tr>
<td>13</td>
<td>Nov. 21</td>
<td>Writing about high-impact experiences</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Nov. 28</td>
<td>Incorporating graphics and design</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Dec. 5</td>
<td>Peer review final reflection</td>
<td>Dec. 9</td>
</tr>
</tbody>
</table>
Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, at White Creek (West Campus), or call 845-1637. For additional information visit http://disability.tamu.edu

Academic Integrity
For additional information please visit: http://aggiehonor.tamu.edu

Code of Ethics
"On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work."

It is your responsibility to know the Aggie Honor Code and to understand what constitutes scholastic dishonesty and to avoid it all costs. Anything (homework, quizzes, daily work, papers, and exams) that appears to be a violation of the Aggie Honor Code will be reported to the Aggie Honor System Office. Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System.
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
• Submit original form and attach a course syllabus.

Form Instructions
1. Course request type:
   □ Undergraduate □ Graduate □ First Professional (MD, DO, JD, PharmD, DVM)
2. Request submitted by (Department or Program Name):
   Ecology and Evolutionary Biology Ph.D. Program (EEBL)
3. Course prefix, number and complete title of course:
   EEBL 630 Big Bend National Park Natural History Survey
4. Catalog course description (not to exceed 50 words):
   Advanced course taught in Big Bend National Park emphasizing biological, ecological, and natural history features of
   the Trans-Pecos ecoregion; detailed notes of the biology and geology of Big Bend based upon daily field trips will be
   recorded.

5. Prerequisite(s):
   Graduate classification; Approval of Instructors
   Cross-listed with:
   Stacked with: Geology 330

6. Is this a variable credit course? □ Yes □ No
   If yes, from ______ to ______
7. Is this a repeatable course? □ Yes □ No
   If yes, this course may be taken ______ times.
   Will this course be repeated within the same semester? □ Yes □ No
   □ No
8. Will this course be submitted to the Core Curriculum Council? □ Yes □ No
9. How will this course be graded:
   □ Grade □ S/U □ Pass/Fail (P/F, CR/DR)
10. This course will be:
    a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)
       NA
    b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)
       Ecology and Evolutionary Biology (EEBL)

11. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.
12. □ I verify that I have reviewed the FAQ for Export Control Basics for Distance Education (http://vpr.tamu.edu/resources/export-
    controls/export-controls-basics-for-distance-education)
13. EEFL 630 Big Bend National Park

   Course Reference Number
   0.00 0.00 2.00 2.00 281310002 1060 17 - 18 0 0 3 6 3 2
   Approval recommended by: [Signature]
   Department Head or Program Chair (Type Name & Sign) Date
   [Signature]
   Chair, College Review Committee Date
   [Signature]
   Dean of College Date
   [Signature]
   Chair, GCC or UCC Date
   Submitted to Coordinating Board by:
   [Signature]
   Date
   Effective Date

Questions regarding this form should be directed to Sandra Williams at 945-8201 or sandra.williams@tamu.edu.
Curricular Services — 07/14
EEBL 630
Big Bend National Park Natural History Survey

Instructors:
David E. Baumgardner, PhD
Senior Lecturer
Department of Biology
Texas A&M University
College Station, TX 77843-3258
e-mail: dbaumgardner@tamu.edu
979-845-4191 (phone), 979-845-2891 (fax)
Office Location: Biological Sciences Building East (BSBE), Room 325

Teaching Assistant:
TBD

Course Description, Summary and Prerequisites

Course Description:
Big Bend National Park is part of the Trans-Pecos ecoregion, and is considered a semi-arid desert. August is part of the rainy season, which triggers many species of plants and animals to become active, and can result in a time of great biological activity. In addition, Big Bend is an exceptionally diverse region geologically, featuring an extinct volcanic caldera, tectonic features that reflect the assembly of the North American continent, and fossil deposits ranging from ancient marine reefs to river deposits containing dinosaur remains.

Students will experience the unique geology, landscape, flora, and fauna of the Chihuahuan Desert, while gaining a greater understanding of the inter-related ecosystems of the Chihuahuan Desert. Students will be expected to keep a daily journal of the various learning events experienced and submit a final document at the end of the course.

Course Summary: An advanced field course taught in Big Bend National Park emphasizing biological, ecological, and natural history features of the Trans-Pecos ecoregion. Detailed notes of the biology and geology of Big Bend based upon daily field trips throughout the park will be recorded by students.

Prerequisites: Approval of instructors.

Course Objectives and Learning Outcomes

Course Objectives.
• Learn about the culture, history, geography, flora, fauna, and ecology of Big Bend.
• Develop observational, natural history skills needed to record and document observations in a detailed field journal. These observations can include unique adaptations and diversity of the plants and animals of the tropics, and changes in structure and function between different ecosystems.

• Learn to interact effectively with fellow students and conduct field studies in a difficult and challenging environment.

Learning Outcomes. At the completion of the course, the student will:
• Have an increased understanding of the history, culture, and ecology of Big Bend National Park and its associated ecology.
• Be able to successfully document the diverse flora and fauna and adaptations of these organisms that allow them to exist in a semi-arid environment.
• Enhance scientific writing and observational skills through “hands on”, high impact teaching.

Required Textbooks
No textbook is required for course. However, the following are recommended reading if you wish to learn more about Big Bend National Park:


Grading Policies

The student’s final grade will be based upon the following two criteria: (1) behavior, attitude, and participation in scheduled events; (2) daily field notes, reports, and discussions.

(1) Participation in Scheduled Events (10% / 10 Points). Students are expected to follow all instructions and directives of the course faculty and staff and to treat all members of the course and any other individuals with whom the students may interact with respect and professionalism. Violation of these standards may result in verbal or written counseling statements and/or loss of points towards final course grade. Each time a scheduled event is missed without approval from the instructor, the student will lose one percentage point from their final average, with a maximum loss of 10%.

(2) Daily Field Notes, Reports, and Discussions (40% / 40 Points). Students will be required to maintain an observational journal of the flora, fauna, community structure, biological adaptations, and any other ecological concepts which they find of interest or are discussed by the course instructors. A notebook and permanent ink pen will be provided. Sketches and reference to pictures may also be included. Students will be expected to record at least four observational
recordings per day based upon either formal, scheduled events or observations while in smaller, informal groups. Journals will be randomly reviewed by either the course director or teaching assistant and, if needed, feedback provided to improve the journal.

(3) **Post Return Discussions and Student Presentations (20%/20 Points).** Shortly after returning from the Big Bend trip (exact date TBD, but either just before the fall semester begins or very early in the fall semester), students will give an oral presentation to all other students in the course on a topic of their choice. The presentation should cover the topic in sufficient detail to explain a concept or phenomena they observed while in Big Bend. Oral presentations are expected to be 12-15 minutes in length.

Research proposal after they return. The proposal should have a clear rationale and a sound hypothesis. Students can use any background knowledge or interest they bring to the table.

**Additional requirement of graduate students**

This is a stacked course and the following is additional work required for graduate students.

**Research data or research paper (30% / 30 Points).** Graduate students will be expected to accomplish this additional criteria by one of two ways. First, for graduate students who will benefit from gathering data that directly supports their research. For these students, a 4-page (approximately 1,000 words), double-spaced accounting of how the data collected will be incorporated into their dissertation, to include details of research and how it benefited the student's research. Second, for graduate students who have not yet started their research or gathering of data, these students will be expected to write a 4-page (approximately 1,000 words), double-spaced report detailing their observations and findings from their time in Big Bend as it applies to their possible dissertation research.

Final Grades: Final grades are determined as follows: A ≥ 90 points; B, 89 to 80 points; C, 79 to 70 points; D 69 to 60 points; F ≤ 59.

**IMPORTANT NOTE:** Administratively, this is considered a Fall course. Since the course will take place before the beginning of the fall semester, grades will not be formally assigned until the end of the fall semester.

**Attendance and Make-up Policy**

All students are expected to participate in all scheduled events, including lectures, and discussion of daily findings. An illness or injury that may prevent participation in a group activity must be reported to the course instructor who may then excuse participation in the activity without penalty with regard to grading criteria. Each time a scheduled event is missed without approval from the instructor, the student will lose one percentage point from their final average, with a maximum loss of 10%. Given the nature of the course, there will be no make-up of course activities. Late work will only be accepted without penalty if under University Excused Absence rules (http://student-rules.tamu.edu/rule07). We will grant extensions in situations not covered by university rules only in extenuating circumstances, and only if you contact us before the due date for the assignment.
Other Pertinent Course Information

Policy on Possession and/or Consumption of Alcoholic Beverages:
Possession or consumption of alcoholic beverages is **strictly forbidden** during the course for several reasons. First, many of the students in the course will not be of legal drinking age. Second, alcohol is a diuretic, which results in water loss to the body. Working in Big Bend in August is extremely stressful to the body due to the heat and lack of humidity, and results in extensive water loss to the body. Consumption of alcohol will only make the situation worse. Third, alcohol consumption can result in numerous social problems among students and create uncomfortable (and sometimes dangerous) situations.

Health Insurance:
All students are required to be covered under a health insurance policy and provide proof of this coverage when they complete the Health and Safety awareness form.

Safety:
Big Bend National Park is one of America’s most stunning parks, but also one of its most dangerous. Any student who is part of the course must realize and understand the risks, and how they are mitigated. Excessive heat and dehydration are the conditions that kill or injure many visitors to Big Bend each year, in particular during the months of July and August. Each morning, the instructors will brief the students on the activities for the day, safety concerns, and ensure everybody has proper clothing, water, and any other necessary items. Students MUST inform the instructors or teaching assistants at any time if they are feeling ill or have any health concerns or issues.

Americans with Disabilities Act (ADA)
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek Complex on west campus or call 979-845-1637. For additional information, visit http://disability.tamu.edu.

Academic Integrity
THE HIGHEST ETHICAL STANDARDS ARE EXPECTED AT ALL TIMES FROM ALL STUDENTS. “An Aggie does not lie, cheat or steal, or tolerate those who do.” For additional information, please visit: http://student-rules.tamu.edu/aggiecode
# TENTATIVE COURSE SCHEDULE 2016
(SUBJECT TO CHANGE DUE TO WEATHER CONDITIONS OR PARK RESTRICTIONS).

<table>
<thead>
<tr>
<th>DAY</th>
<th>DATE</th>
<th>LOCATION</th>
<th>ACTIVITY</th>
<th>Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday</td>
<td>9-Aug-16</td>
<td>Butler Hall #004</td>
<td>Pre-departure Briefings, 1PM - 3PM.</td>
<td>2</td>
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<tr>
<td>Wednesday</td>
<td>10-Aug-16</td>
<td>Butler Hall #004</td>
<td>Pre-departure Briefings, 1PM - 3PM.</td>
<td>2</td>
</tr>
<tr>
<td>Saturday</td>
<td>13-Aug-16</td>
<td>Travel from College Station to Big Bend</td>
<td>Change in flora from east to west</td>
<td>4</td>
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<tr>
<td>Sunday</td>
<td>14-Aug-16</td>
<td>Rattlesnake Mountain (Fossil Hunt)</td>
<td>Paleocoeology</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td>Santa Elena Canyon</td>
<td>Geography/Invasive Species</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td>Catetail Falls</td>
<td>Flora and Fauna Adaptations</td>
<td>3</td>
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<tr>
<td>Monday</td>
<td>15-Aug-16</td>
<td>Boquilllas Canyon</td>
<td>Geography</td>
<td>2</td>
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<td>Hot Springs Hike</td>
<td>Paleocoeology; plant adaptations</td>
<td>4</td>
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<tr>
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<td>Mariscal Mine</td>
<td>History/Culture</td>
<td>3</td>
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<td>Tuesday</td>
<td>16-Aug-16</td>
<td>The Window</td>
<td>Plant and animal adaptations</td>
<td>4</td>
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<tr>
<td></td>
<td></td>
<td>Lost Mine Trail (Caldera)</td>
<td>Geology</td>
<td>2</td>
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<td>Night Hike</td>
<td>Animal Adaptations</td>
<td>3</td>
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<tr>
<td>Wednesday</td>
<td>17-Aug-16</td>
<td>Emory Peak</td>
<td>Flora and Fauna Endenism</td>
<td>10</td>
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<td>Thursday</td>
<td>18-Aug-16</td>
<td>Rest, Refit, and Recuperation</td>
<td>NA</td>
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<tr>
<td></td>
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<td>Fossil Bone Exhibit</td>
<td>Paleocoeology</td>
<td>3</td>
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<tr>
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<td></td>
<td>Night Hike</td>
<td>Animal Adaptations</td>
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<tr>
<td>Friday</td>
<td>19-Aug-16</td>
<td>Glenn Spring</td>
<td>Plant and animal adaptations</td>
<td>4</td>
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<tr>
<td></td>
<td></td>
<td>Juniper Canyon</td>
<td>Plant and animal adaptations</td>
<td>4</td>
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<tr>
<td>Saturday</td>
<td>20-Aug-16</td>
<td>Burrow Runoff</td>
<td>Animal Adaptations</td>
<td>4</td>
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<tr>
<td></td>
<td></td>
<td>Ward Spring</td>
<td></td>
<td>4</td>
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<tr>
<td>Sunday</td>
<td>21-Aug-16</td>
<td>Return trip to TAMU via Hwy 90</td>
<td>Plant adaptations</td>
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<td>24-Aug-16</td>
<td>Butler Hall #004</td>
<td>Discussions, student presentations.</td>
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<tr>
<td>Thursday</td>
<td>25-Aug-16</td>
<td>Butler Hall #004</td>
<td>Discussions, student presentations.</td>
<td>3</td>
</tr>
</tbody>
</table>
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
• Submit original form and attach a course syllabus. •

Form Instructions


2. Request submitted by  (Department or Program Name):  Educational Administration & Human Resource Development (EAHR)

3. Course prefix, number and complete title of course:  EHRD 619: Conflict Management and Dialogue

4. Catalog course description (not to exceed 50 words):  Understand and practice of conflict management and dialogue; identify and learn importance of effective conflict management in workplace; develop skills to effectively engage in meaningful conflict using effective modalities; enhance negotiating preferences and its impact on self, workplace and careers.

5. Prerequisite(s):  Graduate classification

Cross-listed with:  Stacked with:  Cross-listed courses require the signature of both department heads.

6. Is this a variable credit course?  □ Yes  □ No  If yes, from _______ to _______

7. Is this a repeatable course?  □ Yes  □ No  If yes, this course may be taken _______ times.

Will this course be repeated within the same semester?  □ Yes  □ No

8. Will this course be submitted to the Core Curriculum Council?  □ Yes  □ No

9. How will this course be graded?  □ Grade  □ S/U  □ P/F (CLMD)

10. This course will be:

   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)

   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)

11. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

12. □ I verify that I have reviewed the FAQ for Export Control Basics for Distance Education (http://vpr.tamu.edu/resources/export-controls/export-controls-basics-for-distance-education).

13. Prefix  Course #  Title (excluding punctuation)

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<th>Lab</th>
<th>Other</th>
<th>SCH</th>
<th>CIP and Fund Code</th>
<th>Admin. Unit</th>
<th>Acad. Year</th>
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Approval recommended by:

Khalil Dirani, program chair
Department Head or Program Chair (Type Name & Sign)  Date
Chair, College Review Committee  Date

Fredrick M. Nafukho, Dept. Head
Department Head or Program Chair (Type Name & Sign)  Date
Dean of College  Date

(if cross-listed course)

Submitted to Coordinating Board by:

Chair, GE of UCC  Date

Associate Director, Curricular Services  Date

Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services – 07/14
MEMORANDUM

DATE: November 30, 2015

TO: Graduate Instruction Committee (GIC)

THROUGH: Fredrick M. Nafukho
Professor & Department Head

FROM: Khalil Dirani
Adult Education & Human Resource Development Program Chair

SUBJECT: New Course Request

In accordance with the College of Education and Human Development GIC Course Approval Guidelines (September 27, 2002), I am submitting the attached request for a new course.

Brief Rationale: This course is taught from a global and social justice perspective and creates the opportunity for graduate students to develop their conflict management and dialogue skills, to enhance their professional communication skill set and marketability. This course provides students with the state recommended 40-hour mediation course which entitles them to a certificate to mediate. Upon completion of this course, students will receive recognition from the TAMU Vice President for Diversity Office.

Proposed Title/Description: EHRD 619, Conflict Management and Dialogue: Understand and practice of conflict management and dialogue; identify and learn importance of effective conflict management in workplace; develop skills to effectively engage in meaningful conflict using effective modalities; enhance negotiating preferences and its impact on self, workplace and careers.

Summary of Resources: No additional resources will be necessary to teach this course.

Results of Vote Approval: Program Faculty: Yes: 7 No: 0
Executive Committee: Yes: 8 No: 0

511 Harrington Tower
1226 TAMU
College Station, TX 77843-4226
Tel. 979.845.2716 Fax. 979.862.4347
http://eahr.tamu.edu
EHRD 619: Conflict Management and Dialogue
Dept. of Educational Administration and Human Resource Development
Fall, 2017

Instructor: Dr. Nancy Watson
Office: Williams Bldg Ste 201/Harrington 551
Office Hours: By appointment
Phone: 979.458.2905 or 979.224.3638
Email: n.watson@tamu.edu

Class Meeting: TBA Class Location: TBA

COURSE DESCRIPTION
Understand and practice of conflict management and dialogue; identify and learn importance of effective conflict management in workplace; develop skills to effectively engage in meaningful conflict using effective modalities; enhance negotiating preferences and its impact on self, workplace and careers.

Prerequisite: Graduate classification

LEARNING OUTCOMES
Upon successful completion of this course, students will be able to:
1. Describe the variables that accompany change in the workplace
2. Explain of the importance of engaging in meaningful conflict on individual, organization, and workplace productivity
3. Effectively engage in the seven stages of the mediation process
4. Explain the role of diversity in conflict and conflict management
5. Analyze issues and problems from a diverse and global perspective
6. Develop and demonstrate the interpersonal skills for effectively working with a ‘class conflict management team (~4 students/team)
7. Acquire the State Bar of Texas Alternative Dispute Resolution Section 40-hour Basic Mediation Training Certificate
8. Explain the application of course skills learned to one’s current and future career/profession

REQUIRED READINGS

ADDITIONAL ASSIGNED READINGS
STATEMENT REGARDING CLASS HANDOUTS
The handouts used in this course are copyrighted. These materials include, but are not limited to, syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts unless permission is expressly granted.

ABSENCE/MAKE-UP WORK/LATE WORK POLICY
Students are expected to attend all classes. There will be no late work and/or make-up assignments accepted/assigned without a university-approved and documented excuse. Absences may only be excused as defined by the Texas A&M University Student Rules available at http://studentrules.tamu.edu/rule07. Students should inform Dr. Watson as soon as she/he knows an assignment will be or has been missed. Students have one week from the date(s) of missed assignment(s) to inform Dr. Watson of the need to make up the assignment(s); failure to do so will result in the student’s inability to make up the assignment(s).

COURSE ASSIGNMENTS

<table>
<thead>
<tr>
<th>Final course grade will be determined by:</th>
<th>Points possible</th>
<th>Blooms’ Taxonomy Tested</th>
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</thead>
<tbody>
<tr>
<td>Case Study (CS) – Each student will be required to complete one Conflict Case Study. The case study should be a relevant workplace, school based, or home based conflict. A sample case study can be found in Module 1 (1 @ 5 points)</td>
<td>5 points</td>
<td>Understanding, Applying, Analyzing, and Creating</td>
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<tr>
<td>Class Reflection Journal (CRJ) - Each student will be required to keep a weekly course journal (a ‘private reflection journal’ from which they can integrate their ideas into the ‘public’ class discussion) to be electronically submitted to the professor 5 times during the semester (see calendar) (5 @ 5 points = 25 points)</td>
<td>25 points</td>
<td>Remembering, Understanding, Applying, Analyzing, Evaluating, Creating</td>
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</table>

Minimally your weekly journal should include: (1) your reflections of the course, (2) application of the course to both your professional and out of class life, and (3) the contribution you are making to class (CC).

Class contribution (CC) - Each student is expected to actively participate in class, group discussions, and mediation case studies under the guidance of the course instructor.
<table>
<thead>
<tr>
<th><strong>Midterm Skill Set (MSS)</strong> - Demonstrate Proficiency in the Conflict Management Process and Skills using mediation as the intervention method</th>
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</thead>
</table>
| • Roles and Roles  
• Gathering Narratives  
• Identifying Issues, and  
• Supporting parties in sharing Thoughts and Feelings |
| 10 points |
| Remembering, Understanding, Applying, Analyzing, Evaluating, Creating |

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<tr>
<th><strong>Skill Sets Assignment (SSA)</strong> – Each individual is required to conduct a 10-minute lesson on one chosen conflict management/dialogue skill sets. You will create an 11x14 poster of your skill set. Students will share any materials with classmates and Dr. Watson. The posters will be class archives. (1 poster and presentation @ 10 points = 10 points)</th>
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<tr>
<td>10 points</td>
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<tr>
<td>Understanding, Applying, Analyzing, Creating</td>
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<tr>
<th><strong>Conflict Paper and Presentation (CPP)</strong> - Each student will be required to identify a conflict management topic and write a 5 page paper on a conflict management topic and present topic Components: topic, rationale for choosing topic, application to current and/or future career/profession, minimum of 5 current references (2005 or later), value and/or importance of topic to classmates (1@ 30 pts)</th>
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</thead>
</table>
| 30 points  
(20 points: paper and 10 pts presentation) |
| Applying, Analyzing, Creating, Evaluating |

| **Final Examination Course Knowledge Assessment (FKA)** – A final examination related to demonstrating:  
• acquisition of the course learning outcomes and  
• proficiency in the mediation process will be completed at the end of the semester  
Proficiency in Mediation Process – Roles and Roles, gathering Narratives, Identifying Issues, and supporting parties in sharing Thoughts and Feelings, support parties in moving forward by parties Generating Options, facilitating the generation of a MOU, and mediation Closure  
• submission of Mediator Competencies Self Reflections |
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<tr>
<td>20 points</td>
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<tr>
<td>Applying, Creating, Analyzing, Evaluating</td>
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</table>
| (one per mediation case  
participated in/observed) |  |  |
|---------------------------|---|---|
| Self evaluation and Peer evaluation  
(from team members) |  |  |
| 1 @ 20 points |  |  |
| **Total Points** | **100 points** |  |

**Grading Scale**
A = 90-100 points  B = 89-90 points  C = 70-79 points  D = 60-69 points  F = Below 60

**GRADING**
Grading of assignments will be based on students meeting the basic requirements specified in the syllabus. Simply meeting the basic requirements of the assignments will be considered average and the number of points earned will reflect the average quality of the work. Additional points may be earned based on writing style (i.e., grammar, spelling, clarity of ideas) and the ability to elaborate on and synthesize information; points will be deducted for using inaccurate conflict management vocabulary. All assignments turned in should be original work (no assignments from other classes are to be submitted).

**AMERICANS WITH DISABILITIES ACT (ADA)**
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information visit [http://disability.tamu.edu](http://disability.tamu.edu).

**FACULTY SENATE STATEMENT ON PLAGIARISM AND AGGIE HONOR CODE**
Scholastic misconduct is defined broadly as “any act that violates the rights of another student in academic work or that involves misrepresentation of your own work.” The handouts used in this course are copyrighted. By “handouts” I mean all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts, unless I expressly grant permission. As commonly defined, plagiarism consists of passing off as one’s own the ideas, words, writings, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one’s work, should the instructor request it, is sufficient grounds to initiate an academic dishonesty case.

"An Aggie does not lie, cheat, or steal nor tolerate those who do."

The Aggie Code of Honor is an effort to unify the aims of all Texas A&M men and women toward a high code of ethics and personal dignity. For most, living under this code will be no problem, as it asks nothing of a person that is beyond reason. It only calls for honesty and integrity, characteristics that Aggies have always exemplified. The Aggie Code of Honor functions as a symbol to all Aggies, promoting understanding and loyalty to truth and confidence in each other. If you have any questions regarding
plagiarism, please consult the latest issue of the Texas A&M University Student Rules, Part 1, Section 20 which can be found online at [http://student-rules.tamu.edu](http://student-rules.tamu.edu). Any suspected instances of scholastic dishonesty will be investigated and resolved according to the procedures outlined in the Aggie Honor System (http://aggiehonor.tamu.edu).

**HARASSMENT**
Texas A&M University is committed to the fundamental principles of academic freedom, equality of opportunity and human dignity. To fulfill its multiple missions as an institution of higher learning, Texas A&M encourages a climate that values and nurtures collegiality, diversity, pluralism and the uniqueness of the individual within our state, nation and world. All decisions and actions involving students and employees should be based on applicable law and individual merit. Texas A&M University, in accordance with applicable federal and state law, prohibits discrimination, including harassment, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, sexual orientation, or veteran status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the appropriate offices within their respective units. Students should contact the Office of the Dean of Student Life at 845-3113, or visit student rules at [http://rules.tamu.edu/rules/300/340199ml.htm](http://rules.tamu.edu/rules/300/340199ml.htm) for more detail information to file a sexual harassment complaint. You may also contact the College of Education and Human Development at 979-845-5311.

**COURSE SCHEDULE**

<table>
<thead>
<tr>
<th>Week</th>
<th>Class</th>
<th>Topics</th>
<th>Reading (prior to class; in ecampus)</th>
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<tbody>
<tr>
<td>1</td>
<td>Change in the Workplace</td>
<td>Syllabus&lt;br&gt;Terms&lt;br&gt;Change and Conflict and Conflict and Diversity&lt;br&gt;Effective communication in a diverse organization&lt;br&gt;Dialogue variables&lt;br&gt;Assign to teams&lt;br&gt;Sign up for Skill Set Assignment Presentation Date&lt;br&gt;Sign up for Conflict Presentation Date</td>
<td>BMT pp. 1-6&lt;br&gt;CM pp. 1-6&lt;br&gt;DDP pp. 1-6&lt;br&gt;Handouts (HO)/Powerpoint Slides (ppt) in Week 1 (W1)</td>
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<tr>
<td>2</td>
<td>Conflict&lt;br&gt;Mediate</td>
<td>Importance of Managing Conflict&lt;br&gt;Thomas-Kilmann Conflict Mode Instrument&lt;br&gt;Conflict Escalation (CM p. 15)&lt;br&gt;Unresolved Conflicts&lt;br&gt;Choosing an Intervention Approach&lt;br&gt;Alternative Dispute Resolution&lt;br&gt;Mediate and Reflect</td>
<td>BMT pp. 9-21&lt;br&gt;CM pp. 7-10, 13-14, and 18-21&lt;br&gt;Algert &amp; Stanley, 2007 (4)&lt;br&gt;HO/ppt in W2&lt;br&gt;Mediation video</td>
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<td>3</td>
<td>Mediation&lt;br&gt;Mediation and Reflect</td>
<td>What Necessitates a Mediation Process?&lt;br&gt;Principles of Mediation&lt;br&gt;Ethical Guidelines for Mediators&lt;br&gt;Mediate and Reflect</td>
<td>BMT pp. 23-30&lt;br&gt;Algert &amp; Froyd, 2002 (3)&lt;br&gt;HO/ppt in W3</td>
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<td>4</td>
<td>The Mediation Process&lt;br&gt;The Mediation Process</td>
<td>Mediation Process Outline&lt;br&gt;Goals in the Mediation Process</td>
<td>Handout – Goals of Mediation Steps&lt;br&gt;HO/ppt in W4</td>
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<td>5</td>
<td>The Mediation Toolkit</td>
<td>Mediation Process Scripts&lt;br&gt;Example of Co-Mediator Teamwork&lt;br&gt;Mediation Checklist&lt;br&gt;Mediate and Reflect</td>
<td>BMT 38-50&lt;br&gt;HO/ppt in W5</td>
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<td>Week 6</td>
<td>Active Listening</td>
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<td>Positions vs Interests/Needs</td>
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<td>I-Statements</td>
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<td>Mediate and Reflect</td>
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<td><strong>Mediate and Reflect</strong></td>
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<tr>
<td><strong>Week 7</strong></td>
<td>Listening Do’s &amp; Don’ts, Listening for Feelings, and Feelings Vocabulary (2 people)</td>
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<td><strong>Conflict</strong></td>
<td>Neutrality: Phrases, Questions, &amp; Examples</td>
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<td><strong>Management</strong></td>
<td>Mediate and Reflect</td>
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<td><strong>Skill Set</strong></td>
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<td><strong>Presentations</strong></td>
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<td><strong>Week 8</strong></td>
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<td><strong>Guest Speakers</strong></td>
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<td>Assertiveness</td>
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<td><strong>Conflict</strong></td>
<td>Mindfulness&amp;Managing Stress</td>
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<td><strong>Skill Set</strong></td>
<td>Mediate with AWS Model and Reflect</td>
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<td><strong>Mediate and Reflect</strong></td>
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<td><strong>Week 10</strong></td>
<td>Interventions</td>
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<td><strong>Conflict Paper</strong></td>
<td>Nature of Conflicts</td>
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<td><strong>Presentations</strong></td>
<td>Multidimensionality of Conflict</td>
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<tr>
<td><strong>Mediate and Reflect</strong></td>
<td>Mediate (traditional or AWS) and Reflect</td>
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<td><strong>Week 11</strong></td>
<td>Conflict Modes Grid Choosing Your Conflict Management Style</td>
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<td><strong>Conflict Paper</strong></td>
<td>Mediate (traditional or AWS) and Reflect – Fish Bowl</td>
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<td><strong>Conflict Modes Grid</strong></td>
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<td>Change</td>
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<td><strong>Skill Set</strong></td>
<td>Knowing your Intervention Goals</td>
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<td>Body Language</td>
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<td>Problems with Mediators and Disputants</td>
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<td><strong>Workplace and Diversity and Conflict</strong></td>
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<td><strong>BMT pp. 51-53 and 54-55</strong></td>
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<td><strong>HO/ppt in W6</strong></td>
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<td><strong>BMT pp. 56-57</strong></td>
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<td><strong>Algert &amp; Froyd, 2002 (2)</strong></td>
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<td><strong>HO/ppt in W7</strong></td>
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<td><strong>BMT pp. 65-66, 68-71</strong></td>
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<td><strong>HO/ppt in W9</strong></td>
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<td><strong>CM pp. 11-12, 17</strong></td>
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<td><strong>HO/ppt in W10</strong></td>
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<td><strong>HO/ppt in W11</strong></td>
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<td><strong>DDP pp. 19-29</strong></td>
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<td><strong>Schmidt, 2010 (1)</strong></td>
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<td><strong>HO/ppt in W12</strong></td>
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<td><strong>Week 13</strong></td>
<td>Conflict Paper Presentations</td>
<td>Mediate and Reflect</td>
<td>DDP pp. 31-42</td>
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<td><strong>Facilitating Dialogues</strong></td>
<td><strong>Conflict Escalation</strong></td>
<td><strong>Deciding to Intervene?</strong></td>
<td><strong>Conflict Intervention Approaches</strong></td>
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<tr>
<th><strong>Week 14</strong></th>
<th>Mediation Programs</th>
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<tr>
<td><strong>BMC Certificate and DDP Recognition</strong></td>
<td><strong>Course Debrief using The Dialogue Circle</strong></td>
<td><strong>Characteristics of a Successful Mediation Program</strong></td>
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<tr>
<th><strong>Week 15</strong></th>
<th>Final Examination</th>
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Texas A&M University
Departmental Request for a New Course
Undergraduate + Graduate + Professional
*Submit original form and attach a course syllabus.*

Form Instructions
1. Course request type:  [ ] Undergraduate  [x] Graduate  [ ] First Professional (DDS, MD, JD, PharmD, DPMD)
2. Request submitted by (Department or Program Name):  Aerospace Engineering
3. Course prefix, number and complete title of course:  MSBN 645 - Failure Mechanics of Engineering Materials
4. Catalog course description (not to exceed 50 words):  Introduction and integration of key experimental, theoretical and computational aspects of failure in engineering materials, including metals and their alloys as well as polymers; includes brittle fracture, ductile fracture and brittle-to-ductile transitions.

5. Prerequisite(s):  Graduate classification: MSBN 601.
   Cross-listed with:  AERO 645
   Stacked with:

6. Is this a variable credit course?  [ ] Yes  [x] No  If yes, from _____ to _____
7. Is this a repeatable course?  [ ] Yes  [x] No  If yes, this course may be taken _____ times.
   Will this course be repeated within the same semester?  [ ] Yes  [x] No
   Will this course be submitted to the Core Curriculum Council?  [ ] Yes  [x] No
8. How will this course be graded?  [x] Grade  [ ] S/U  [ ] P/R (CLMD)
9. This course will be:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in History)
      n/a
   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in Geography)
      Aerospace Engineering, Materials Science & Engineering

10. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with those departments. Attach approval letters.
11. [ ] I verify that I have reviewed the FAQ for Export Control Basics for Distance Education (http://vpr.tamu.edu/resources/export-control-basics-for-distance-education).
12. [ ] I verify that I have reviewed the ESSAP Guide for Distance Education (http://vpr.tamu.edu/resources/essap-guide-for-distance-education).

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Approval recommended by:

Mladen Radovic - MSBN
Department Head or Program Chair (Type Name & Sign)  Date

Vikram K. Klassen - AERO
Department Head or Program Chair (Type Name & Sign)  Date (If cross-listed course)

Submitted to Coordinating Board by:

Associate Director, Curricular Services  Date  Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services – 07/14
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
• Submit original form and attach a course syllabus.

Form Instructions
1. Course request type: ☐ Undergraduate  ☑ Graduate  ☐ First Professional (DDS, MD, JD, PharmD, DVM)
2. Request submitted by (Department or Program Name): Aerospace Engineering
3. Course prefix, number and complete title of course: MSEN 645 - Failure Mechanics of Engineering Materials

4. Catalog course description (not to exceed 50 words): Introduction and integration of key experimental, theoretical and computational aspects of failure in engineering materials, including metals and their alloys as well as polymers; includes: brittle fracture, ductile fracture and brittle-to-ductile transitions.

5. Prerequisite(s): Graduate classification; MSEN 601.
Cross-listed with: AERO 643.
Stacked with:

Cross-listed courses require the signature of both department heads.

6. Is this a variable credit course? ☐ Yes  ☑ No
If yes, from ______ to ______
7. Is this a repeatable course? ☐ Yes  ☑ No
If yes, this course may be taken ______ times.
Will this course be repeated within the same semester? ☐ Yes  ☑ No
Will this course be submitted to the Core Curriculum Council? ☐ Yes  ☑ No
How will this course be graded: ☑ Grade  ☐ S/U  ☐ P/F (CLMD)

10. This course will be:
a. required for students enrolled in the following degree programs(s) (e.g., B.A. in history)
   n/a
b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)
   Aerospace Engineering, Materials Science & Engineering

11. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.
12. ☐ I certify that I have reviewed the FAQ for Export Control Basics for Distance Education (http://vpr.tamu.edu/resources/export-controls/export-controls-basics-for-distance-education).

13. Prefix  Course #  Title (excluding punctuation)
    MSEN  645  FAILURE MECH ENGR MATLS

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Approval recommended by:

Miladin Radovic - MSEN  
Department Head or Program Chair (Type Name & Sign)  Date

Vikram K. Kinya - AERO  
Department Head or Program Chair (Type Name & Sign)  Date

Submitted to Coordinating Board by:

Karen Butler-Purry  
Chair, GC or UCC  Date

Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu
Curricular Services - 07/14
Course Syllabus

AERO/MSEN 645

Introduction to the Failure Mechanics of Engineering Materials
Spring 2017

INSTRUCTOR: Dr. A. Amine Benzeraga
Department of Aerospace Engineering
Department of Materials Science and Engineering
HRBB 736C
Phone: 845-1602
e-mail: benzeraga@tamu.edu

Administrative Asst: Miriam Alderete
HRBB 733
Phone: 979-862-4266
e-mail: miriam@aero.tamu.edu

CLASS TIMES: TBD

OFFICE HOURS: TBD

COURSE DESCRIPTION: Introduction and integration of key experimental, theoretical and computational aspects of failure in engineering materials, including metals and their alloys as well as polymers; includes brittle fracture, ductile fracture and brittle-to-ductile transitions.

PREREQUISITES: Graduate student classification; MSEN 601 - Introduction to Materials Science and Engineering

EXPANDED COURSE DESCRIPTION: This course introduces and integrates key experimental, theoretical and computational aspects of failure in engineering materials, including metals and their alloys as well as polymers; topics include: brittle fracture, ductile fracture and brittle-to-ductile transitions. A field theory course and/or MEMA 611- Fracture Mechanics helpful.

TEXTBOOK:
Typed Lecture Notes:
Ductile Fracture of Metals
A.A. Benzeraga, 2014.

Failure of Metals (114 pages)
In Comprehensive Structural Integrity
Pineau and Pardoen
Elsevier, 2007
LEARNING OBJECTIVES: Students will learn (i) how to distinguish between ductile and brittle fracture surfaces using fractography; (ii) the mechanisms of failure at microstructural length scales; (iii) micromechanics models of fracture and plastic flow localization. Students are expected to develop a fundamental understanding of engineering materials failure through a semester-long project. Project can focus on experiments, theory or simulations.

COURSE CONTENT:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Weeks</th>
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<tbody>
<tr>
<td>Introduction</td>
<td>(1)</td>
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<tr>
<td>1. Failure types, modes and mechanisms</td>
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<tr>
<td><strong>Part A: Cleavage in Metals</strong></td>
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<tr>
<td>2. Theories of Cleavage</td>
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<td>2.1. Theoretical cleavage stress</td>
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<td>2.2. Dislocation-based theories</td>
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<tr>
<td>3. Transgranular Cleavage</td>
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<td>3.1. Case of ferritic steels</td>
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<td>3.2. Case of other metals</td>
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<td>4. Intergranular Fracture</td>
<td>4</td>
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<tr>
<td><strong>Part B: Ductile Fracture</strong></td>
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<tr>
<td>5. Experimental Facts</td>
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<tr>
<td>5.1. Macroscopic aspects</td>
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<td>5.2. Microscopic mechanisms (Fractography)</td>
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<tr>
<td>5.3. Microscopic Measurements</td>
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<tr>
<td>6. Void Formation and Damage Initiation</td>
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<tr>
<td>6.1. Metal alloys</td>
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<td>6.2. Amorphous polymers</td>
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<td>6.3. Semicrystalline polymers</td>
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<tr>
<td>6.4. Pure metals</td>
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<td>6.5. Void formation at micron and sub-micron scales</td>
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<tr>
<td>7. Void Growth Theories</td>
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</tr>
<tr>
<td>7.1. Uncoupled models (triaxiality effects)</td>
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<td>7.2. Coupled models (stress state effects)</td>
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</table>
7.2.1. Elements of homogenization theory
7.2.2. Self-consistent models
7.2.3. Limit-analysis models

8. Void Coalescence
   8.1. Internal necking
   8.2. Void-sheet coalescence
   8.3. Necklace coalescence

9. Plastic Flow Localization
   9.1. Necking in bars and sheets
   9.2. Shear band formation

10. Crack Initiation and Crack Growth
   10.1. Bottom-up (materials science) approach
   10.2. Top-down (materials engineering) approach
   10.3. Initially crack-free specimens
   10.4. Pre-cracked specimens
   10.5. Fracture loci and failure maps of a ductile material

Part C: Ductile-Brittle Transition (DBT)

11. DBT in Fracture Toughness Tests
12. DBT in Charpy Impact Testing
13. Models of DBT

Project Presentations

Total Weeks 14

GRADING:
Homework 30%
Term Project 40%
Final Exam 30%

TOTAL 100%
Method of Evaluation:

Grading percentages will be **Homework 30%, Term Project 40%, and Final Exam 30%**.
Grading Policy: A 90 – 100%, B 80 – 89%, C 70 – 79%, D 60 - 69%, F below 60%.

A total of three homework assignments are due every two (2) weeks during the first six (6) weeks. **Homework due during weeks 2, 4, and 6.**

Term project consists of written report and presentation. **Report due week 12.**
**Presentations during week 14.**
Students will have two weeks to prepare their final presentations in the last week of classes. Two (2) sessions are devoted to this with 20min presentations (15 min + 5 min for questions).

Academic Integrity Statement:

"**An Aggie does not lie, cheat, or steal or tolerate those who do.**"

The Code of Honor is an effort to unify the aims of all Texas A&M men and women toward a high code of ethics and personal dignity. For most, living under this code will be no problem, as it asks nothing of a person that is beyond reason. It only calls for honesty and integrity, characteristics that Aggies have always exemplified. As commonly defined, plagiarism consists of passing off as one's own the ideas, work, writings, etc., that belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. If you have questions regarding plagiarism, please visit [http://aggiehonor.tamu.edu](http://aggiehonor.tamu.edu) and consult the latest issue of the Texas A&M University Student Rules at [http://student-rules.tamu.edu](http://student-rules.tamu.edu). Or, consult the instructor.

Attendance and Make-up Policy:

*Late homework will be accepted for credit only with the consent of the instructor at least 24 hours prior to class on the due date or due to a University excused absence.*

You are responsible for any material covered and/or any assignments given even if absent from class. The university views class attendance as the responsibility of an individual student. Attendance is essential to complete the course successfully. University rules related to excused and unexcused absences are located on-line at: [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07).

ADA Policy Statement:

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information [http://disability.tamu.edu](http://disability.tamu.edu).
Texas A&M University
Departmental Request for a New Course
Undergraduate + Graduate + Professional
Submit original form and attach a course syllabus.

Form Instructions:
1. Course request type:
   - Undergraduate □
   - Graduate □
   - First Professional (DVM, MD, JD, PharmD, DVM)

2. Request submitted by [Department or Program Name]:
   Department of Nutrition and Food Science

3. Course prefix, number and complete title of course:
   NUTR 679 - LIPOPROTEINS IN HEALTH AND DISEASE

4. Catalog course description (not to exceed 50 words):
   "Course provides an understanding of lipoprotein biology as it relates to nutrient delivery and disease development. Emphasis is placed on understanding how structure influences the function of different lipoprotein particles in human and avian systems. Students have the opportunity to study the factors that influence lipoprotein profiles or those of animals by modern imaging techniques. Background in basic lipid biochemistry helpful."

5. Prerequisite(s):
   NONE
   Cross-listed with: POSC 679

6. Is this a variable credit course? □ Yes □ No
   If yes, from _____ to _____

7. Is this a repeatable course? □ Yes □ No
   If yes, this course may be taken _____ times.
   Will this course be repeated within the same semester? □ Yes □ No

8. Will this course be submitted to the Core Curriculum Council? □ Yes □ No

9. How will this course be graded? □ Grade □ S/U □ P/F (CLRM)

10. This course will be:
    a. required for students enrolled in the following degree programs(s) (e.g., B.A. in History)
        N/A
    b. an elective for students enrolled in the following degree programs(s) (e.g., M.S., Ph.D. in Geography)
        ANY MASTER'S OR DOCTORAL PROGRAM

11. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.
   □ I verify that I have reviewed the FAQ for Export Control Basics for Distance Education (http://vpr.tamu.edu/resources/export-control/export-control-basics-for-distance-education).

12. <Signature>
    [Date]

13. Departmental Request Form

<table>
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<td>NUTR 679</td>
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   Approval recommended by:
   Dr. Stephen T. Tidwell
   [Signature] 10/12/15
   Department Head or Program Chair (Type Name & Sign) Date
   Chair, College Review Committee Date

   Submitted to Coordinating Board by:
   [Signature] 10/12/15
   Date
   Effective Date

   [Signature] 10/12/15
   Date
   [Signature] 10/12/15
   Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services - 07/16
NEW COURSE 2016-2017
POSC 679 / NUTR 679

Selected Topics in Lipid Biology
(Lipoproteins in Health & Disease)

Instructor: Rosemary L. Walzem
Office: 242D Kleberg Center
Phone: 845-7537
E-mail: rwalzem@poultry.tamu.edu

POSC/NUTR 689 – Spring 2016
Classroom: HFSB 101
Time: Tuesday, Thursday
11:10 a.m. – 12:25 p.m.

Course Text: No texts are required, but, students will find Lipid Biochemistry: An Introduction 5th Ed. By Gurr, Harwood, and Frayn ISBN: 0-632-05409-3 a helpful general reference. Other texts on lipid chemistry and metabolism may be consulted. Most lectures will be taken from current reviews and research literature. Students are expected to read outside of the text. Reference and supplemental reading materials are listed in the webpage, you are responsible for content in reading materials assigned to a specific lecture.

Course Goals and Logic:

This is specialized course in lipid biology and lipoprotein metabolism. Examples are drawn from both animal models and human studies. The course is taught at an intermediate to advanced level. Students should develop a clear understanding of lipoprotein metabolism in humans and animals (birds especially), as well as lipid and lipoprotein associated diseases such as atherosclerosis, fatty liver or NASH, and egg yolk peritonitis and macular degeneration. Students will be introduced to analytical and experimental/interpretive tools used to study lipoproteins and lipid biology and can practice lipoprotein separations experimentally. Students are expected to develop the ability to read proposals or lipid claims critically.

Course Schedule:

Lectures will be placed on the course website following in class delivery or by the date listed in the syllabus for web-only lectures.
Exams and Grading:

There will be a take home examination and a final. Students will also critically read and summarize research papers relevant to specific lectures coming to a scientifically supported conclusion regarding the quality and merit of the work. Quizzes related to factual recall (e.g. definitions) will be given weekly while midterm and final exams will employ questions requiring integration of lecture and reading materials.

Take home exam– 30%
Assigned paper critiques – 20%
Quizzes – 15%
Final exam – 35%

NOTE: Final exam is May 12, Wednesday, 8AM – 10AM.

Grading: > 90% = A
80 - 89.5% = B
70 - 79.5% = C
60-69.5% = D
0-59.5% = F

If you do not score at least 80% on the quizzes and paper synopses during the first few weeks consider seriously whether you can improve your grade. Students experiencing difficulty with the course material should see Dr. Walzem as soon as possible for help.

Attendance and Make-up Policy

Absenteeism Policy

This policy is drafted in accordance with the Texas A&M University Regulations Manual. Visit website for information on student rule 7: [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07).

Absences from exams and quizzes will be excused for reasons including the following:
1. Participation in an activity appearing on the University authorized list.
2. Death or major illness in a student’s immediate family.
3. Participation in legal or administrative procedures that require a student’s presence.
4. Illness of a dependent family member.
5. Religious holy day.
6. Confinement because of illness.
7. Required participation in military duties.
The student must notify the instructor of the excused absence, in person or by telephone, within 48 hours of the last date of absence. Makeup exams will be scheduled and must be completed within 30 days of the last date of absence. Unexcused absences on dates of quizzes or exams will result in grades of F (0 points) on that exam.
In addition to these University mandated regulations; the following policies also apply to absenteeism in this course:
1. A log of attendance will be kept by the instructor for all class meetings.
2. Students will acknowledge attendance by signing (not printing) a daily attendance log.
3. Unexcused absences on days of exams and quizzes will result in final grades of zero (0) on missed exams or quizzes.
4. All makeup exams due to excused absences will have an oral question component in addition to the written portion of the exam per the discretion of the instructor.

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<th>Lecture No.</th>
<th>Date</th>
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<td>Review and Course Concepts Introductions</td>
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<tr>
<td>1</td>
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<td>Introduction / Review concepts in lipid chemistry</td>
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<tr>
<td>2</td>
<td>Jan 21</td>
<td>Methods of lipid &amp; lipoprotein analysis</td>
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<td>3</td>
<td>Jan 26</td>
<td>Methods of lipid &amp; lipoprotein analysis</td>
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<td>The big picture – overview of lipoprotein metabolism</td>
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<td>Triacylglycerol-Rich Lipoproteins &amp; Their Metabolism</td>
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<td>5</td>
<td>Feb 8</td>
<td>VLDL – structure &amp; comparative aspects, role of apoproteins</td>
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<td>Feb 4</td>
<td>VLDL – Assembly process: where &amp; how</td>
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<td>Feb 9</td>
<td>VLDL – Role in nutrient delivery: embryo/bird/mammal</td>
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<td>8</td>
<td>Feb 11</td>
<td>Walk – Walzem at study section</td>
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<td>9</td>
<td>Feb 16</td>
<td>Lipases – breaking down those balls of fat</td>
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<td>10</td>
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<td>Fat absorption and postprandial lipemia</td>
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<td>New lipid signals – endocannabinoids</td>
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<td>Cholesterol Homeostasis – Cellular &amp; Whole body</td>
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<td>Cellular cholesterol regulation - synthesis - Take home midterm handed out</td>
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<td>Mar 1</td>
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<td>13</td>
<td>Mar 8</td>
<td>Hot Topics from Deuell!!</td>
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<td>Take home midterm due back</td>
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<td>14</td>
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<td>Cellular cholesterol regulation – dietary factors and molecular control</td>
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<td>15</td>
<td>Mar 22</td>
<td>LDL - structure, formation &amp; turn over</td>
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<td>16</td>
<td>Mar 24</td>
<td>Initiating atherosclerosis, lysolipids &amp; lipoprotein oxidation</td>
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<td>Mar 29</td>
<td>Atherosclerosis – the vascular wall &amp; cellular participants</td>
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<td>18</td>
<td>Mar 31</td>
<td>Lipoproteins, vascular calcification &amp; bone biology</td>
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<td>19</td>
<td>Apr 5</td>
<td>Clinical correlates: genes, drugs &amp; diet interventions and biomarkers of risk</td>
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<td>24</td>
<td>Apr 21</td>
<td>Reverse cholesterol transport (RCT): VLDL &amp; HDL (ApoA1)</td>
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<td>20</td>
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<td>Cholesterol and related cyclic lipids, functions, absorption and excretion</td>
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**High Density Lipoproteins**

Heterogeneous multipurpose platforms for good & evil

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<td>HDL, why is good cholesterol is good chick at hatch, hen at molt, vascular wall at risk</td>
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<td>22</td>
<td>Apr 14</td>
<td>HDL – density definition adequate? Or what is HDL functionality?</td>
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<td>23</td>
<td>Apr 19</td>
<td>Inflammation/innate immunity &amp; RCT</td>
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<tr>
<td>25</td>
<td>Apr 26</td>
<td>Alternate macrophage activation</td>
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<td>Iron utilization &amp; Egg Yolk Peritonitis</td>
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<td>26</td>
<td>Apr 28</td>
<td>Specialized nutrient delivery roles for HDL - Lutein</td>
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<td>Final Exam</td>
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</tbody>
</table>

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Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
* Submit original form and attach a course syllabus. *

Form Instructions

1. Course request type: □ Undergraduate  ☑ Graduate  □ First Professional (DO, MD, JD, PharmD, DVM)

2. Request submitted by (Department or Program Name): Department of Poultry Science

3. Course prefix, number and complete title of course: POSC 679 - LIPOPROTEINS IN HEALTH AND DISEASE

4. Catalog course description (not to exceed 50 words):

   "A course provides an understanding of lipoprotein biology as it relates to nutrient delivery and disease development. Emphasis is placed on understanding how structure influences the function of different lipoprotein particles in human and avian systems. Students have the opportunity to study the human lipoprotein profiles or those of animals by modern imaging techniques. Background in basic lipid biochemistry helpful."

5. Prerequisite(s): NONE

   Cross-listed with: NUTR 679

   Stacked with: N/A

6. Is this a variable credit course? □ Yes  ☑ No  If yes, from _____ to _____

7. Is this a repeatable course? □ Yes  ☑ No  If yes, this course may be taken _____ times.

   Will this course be repeatable within the same semester? □ Yes  ☑ No

8. Will this course be submitted to the Core Curriculum Council? □ Yes  ☑ No

9. How will this course be graded?  ☑ Grade  □ S/U  □ FYF (CLM)

10. This course will be:
    a. N/A
    b. an elective for students enrolled in the following degree program(s) (e.g., B.A. in history)

   ANY MASTER'S OR DOCTORAL PROGRAM

11. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

12. ☑ I certify that I have reviewed the FAQ for Export Control Basics for Distance Education (http:// regulates.tamu.edu/resources/export-control/export-control-basics-for-distance-education).

13. Title: LIPOPROTEINS IN HEALTH

   POSC 679

   Text: 3.00  0.00  3.00  3019010002  2350  18  -  17  0  0  3  3  3  2

   Approval recommended by:

   Dr. David J. Caldwell
   Department Head or Program Chair (Type Name & Sign)  Date  Chair, College Review Committee

   Dr. Stephen T. Talbot
   Department Head or Program Chair (Type Name & Sign)  Date  Dean of College

   (If cross-listed course)

   Submitted to Coordinating Board by:

   Associate Director, Curricular Services  Date  Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu
Curricular Services – 07/14
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
• Submit original form and attach a course syllabus.

1. Course request type:  □ Undergraduate  ☑ Graduate  □ First Professional (MD, JD, PharmD, DVM)

2. Request submitted by (Department or Program Name): Department of Poultry Science

3. Course prefix, number and complete title of course: POSC 679 - LIPOPROTEINS IN HEALTH AND DISEASE

4. Course description (not to exceed 50 words):
Course provides an understanding of lipoprotein biology as it relates to nutrient delivery and disease development. Emphasis is placed on understanding how structure influences the function of different lipoprotein particles in human and avian systems. Students have the opportunity to study their own lipoprotein profiles or those of animals by modern imaging techniques. Background in basic lipid biochemistry helpful.

5. Prerequisite(s): NONE

6. Cross-listed with: NUTR 679

7. Is this a variable credit course?  □ Yes  ☑ No  If yes, from _______ to _______

8. Is this a repeatable course?  □ Yes  ☑ No

9. Will this course be repeated within the same semester?  □ Yes  ☑ No

10. How will this course be graded?  □ Grade  □ S/U  ☑ P/F (CLMD)

This course will be:

a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)  
   N/A

b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)  
   ANY MASTER'S OR DOCTORAL PROGRAM

11. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

12. ☑ I verify that I have reviewed the FAQ for Export Control Basics for Distance Education [http://vpr.tamu.edu/resources/export-control-basics-for-distance-education].

13. POSC 679  LIPOPROTEINS IN HEALTH

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Lab</th>
<th>Other</th>
<th>SCH</th>
<th>CIP and Fund Code</th>
<th>Admin. Unit</th>
<th>Acad. Year</th>
<th>HCL Code</th>
</tr>
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<td>3019010002</td>
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<td>16</td>
<td>0003632</td>
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</tbody>
</table>

Approval recommended by:  
Dr. David J. Caldwell  
Department Head or Program Chair  Date 10-7-15
Dr. Stephen T. Talcott  
Department Head or Program Chair  Date 12/11/15

Dr. William Neal  Chair, College Review Committee  Date 12/11/15
Dean of College  Date

Submitted to Coordinating Board by:  
Chair, GC or UCC  Date

Associate Director, Curricular Services  Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services – 07/14
NEW COURSE 2016-2017
POSC 679 / NUTR 679

Selected Topics in Lipid Biology
(Lipoproteins in Health & Disease)

Instructor: Rosemary L. Walzem
Office: 242D Kleberg Center
Phone: 845-7537
E-mail: rwalzem@poultry.tamu.edu

POSC/NUTR 689 – Spring 2016
Classroom: HFSB 101
Time: Tuesday, Thursday
     11:10 a.m. – 12:25 p.m.

Course Text: No texts are required, but, students will find Lipid Biochemistry: An Introduction 5th Ed. By Gurr, Harwood, and Frayn ISBN: 0-632-05409-3 a helpful general reference. Other texts on lipid chemistry and metabolism may be consulted. Most lectures will be taken from current reviews and research literature. Students are expected to read outside of the text. Reference and supplemental reading materials are listed in the webpage, you are responsible for content in reading materials assigned to a specific lecture.

Course Goals and Logic:

This is specialized course in lipid biology and lipoprotein metabolism. Examples are drawn from both animal models and human studies. The course is taught at an intermediate to advanced level. Students should develop a clear understanding of lipoprotein metabolism in humans and animals (birds especially), as well as lipid and lipoprotein associated diseases such as atherosclerosis, fatty liver or NASH, and egg yolk peritonitis and macular degeneration. Students will be introduced to analytical and experimental/interpretive tools used to study lipoproteins and lipid biology and can practice lipoprotein separations experimentally. Students are expected to develop the ability to read proposals or lipid claims critically.

Course Schedule:

Lectures will be placed on the course website following in class delivery or by the date listed in the syllabus for web-only lectures.
Exams and Grading:

There will be a take home examination and a final. Students will also critically read and summarize research papers relevant to specific lectures coming to a scientifically supported conclusion regarding the quality and merit of the work. Quizzes related to factual recall (e.g. definitions) will be given weekly while midterm and final exams will employ questions requiring integration of lecture and reading materials.

Take home exam – 30%
Assigned paper critiques – 20%
Quizzes – 15%
Final exam – 35%

NOTE: Final exam is May 12, Wednesday, 8AM – 10AM.

Grading: > 90% = A
80 - 89.5% = B
70 - 79.5% = C
60-69.5% = D
0-59.5% = F

If you do not score at least 80% on the quizzes and paper synopses during the first few weeks consider seriously whether you can improve your grade. Students experiencing difficulty with the course material should see Dr. Walzem as soon as possible for help.

Attendance and Make-up Policy

Absenteism Policy

This policy is drafted in accordance with the Texas A&M University Regulations Manual. Visit website for information on student rule 7: http://student-rules.tamu.edu/rule07).

Absences from exams and quizzes will be excused for reasons including the following:
1. Participation in an activity appearing on the University authorized list.
2. Death or major illness in a student's immediate family.
3. Participation in legal or administrative procedures that require a student's presence.
4. Illness of a dependent family member.
5. Religious holy day.
6. Confinement because of illness.
7. Required participation in military duties.

The student must notify the instructor of the excused absence, in person or by telephone, within 48 hours of the last date of absence. Makeup exams will be scheduled and must be completed within 30 days of the last date of absence. Unexcused absences on dates of quizzes or exams will result in grades of F (0 points) on that exam.
In addition to these University mandated regulations; the following policies also apply to absenteeism in this course:
1. A log of attendance will be kept by the instructor for all class meetings.
2. Students will acknowledge attendance by signing (not printing) a daily attendance log.
3. Unexcused absences on days of exams and quizzes will result in final grades of zero (0) on missed exams or quizzes.
4. All makeup exams due to excused absences will have an oral question component in addition to the written portion of the exam per the discretion of the instructor.

<table>
<thead>
<tr>
<th>Lecture No.</th>
<th>Date</th>
<th>Lecture Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review and Course Concepts Introductions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Jan 19</td>
<td>Introduction / Review concepts in lipid chemistry</td>
</tr>
<tr>
<td>2</td>
<td>Jan 21</td>
<td>Methods of lipid &amp; lipoprotein analysis</td>
</tr>
<tr>
<td>3</td>
<td>Jan 26</td>
<td>Methods of lipid &amp; lipoprotein analysis</td>
</tr>
<tr>
<td>4</td>
<td>Jan 28</td>
<td>The big picture – overview of lipoprotein metabolism</td>
</tr>
</tbody>
</table>

| Triacylglycerol-Rich Lipoproteins & Their Metabolism                           |
| 5          | Feb 8    | VLDL – structure & comparative aspects, role of apoproteins                  |
| 6          | Feb 4    | VLDL – Assembly process: where & how                                           |
| 7          | Feb 9    | VLDL – Role in nutrient delivery: embryo/bird/mammal                          |
| 8          | Feb 11   | Walk – Walzem at study section                                                |
| 9          | Feb 18   | Lipases – breaking down those balls of fat                                    |
| 10         | Feb 18   | Fat absorption and postprandial lipemia                                       |
| 11         | Feb 23   | New lipid signals – endocannabinoids                                          |

| Cholesterol Homeostasis – Cellular & Whole body                               |
| 12         | Feb 25   | Cellular cholesterol regulation - synthesis - Take home midterm handed out    |
| No Lecture | Mar 1    | Deuel Conference – Walk                                                        |
| No Lecture | Mar 3    | Deuel Conference – Walk                                                        |
| 13         | Mar 8    | Hot Topics from Deuell!! Take home midterm due back                            |
| 14         | Mar 10   | Cellular cholesterol regulation – dietary factors and molecular control        |
| No Lecture | Mar 15   | Spring Break                                                                  |
| No Lecture | Mar 17   | Spring Break                                                                  |
| 15 | Mar 22 | LDL structure, formation & turn over |
| 16 | Mar 24 | Initiating atherosclerosis, lysolipids & lipoprotein oxidation |
| 17 | Mar 29 | Atherosclerosis – the vascular wall & cellular participants |
| 18 | Mar 31 | Lipoproteins, vascular calcification & bone biology |
| 19 | Apr 5  | Clinical correlates: genes, drugs & diet interventions and biomarkers of risk |
| 24 | Apr 21 | Reverse cholesterol transport (RCT): VLDL & HDL (ApoA1) |
| 20 | Apr 7  | Cholesterol and related cyclic lipids, functions, absorption and excretion |

**High Density Lipoproteins**

**Heterogeneous multipurpose platforms for good & evil**

| 21 | Apr 12 | HDL, why is good cholesterol is good chick at hatch, hen at molt, vascular wall at risk |
| 22 | Apr 14 | HDL – density definition adequate? Or what is HDL functionality? |
| 23 | Apr 19 | Inflammation/innate immunity & RCT |
| 25 | Apr 26 | Alternate macrophage activation Iron utilization & Egg Yolk Peritonitis |
| 26 | Apr 28 | Specialized nutrient delivery roles for HDL - Lutein |

**Final Exam**

**May 10**

**8-10 AM**

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(12/2015)