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

1. Request submitted by (Department or Program Name): Zachry Department of Civil Engineering

2. Course prefix, number and complete title of course: CVEN 753 Damage Mechanics of Solids and Structures

3. Catalog course description (not to exceed 50 words): Damage mechanics; constitutive modeling of damage behavior of materials; application of thermodynamic laws; computational techniques for predicting progressive damage and failure; plasticity; viscoplasticity; viscoelasticity; cohesive zone modeling; fatigue and creep damage; damage in various brittle and ductile materials (e.g., metal, concrete, polymer, ceramic, asphalt, biomaterial, composites).

4. Prerequisite(s): CVEN 633 or approval of instructor

5. Is this a variable credit course? □ Yes □ No
   If yes, from _________ to __________

6. 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

7. 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)

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

9. Prefix Course Title (excluding pronunciation)
   CVEN 753 Damage Mechanics of Solids and Structures

   Lab Lab Sci CHF and Code
   0 3 0 0 0 3 1 4 0 8 0 3 0 0 0 6 0 6 3 0
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   1 2 - 1 3 0 0 3 6 3 2

Approval recommended by:

Department Head or Program Chair (Type Name & Sign)
Date

Chair, College Review Committee
Date

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

Deap of College
Date

Chair, GC or UCC
Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services – 3/10
INSTRUCTOR: Dr. Rashid K. Abu Al-Rub  
Office: 710B CE/TTI Bldg. Phone: 862-6603 E-mail: rabualrub@civil.tamu.edu  
Office Hours: T.Th. 1:00 – 2:00 PM, (Other times by appt.)

COURSE WEBSITE: http://elearning.tamu.edu [you need your TAMU (NetID) to login in VISTA]

TEXTBOOK REQUIRED: Course notes will be provided by the instructor.

COURSE PREREQUISITES: CVEN 633 or approval of instructor.

COURSE DESCRIPTION

Damage Mechanics of Solids and Structures is about understanding and modeling the degradation in mechanical properties of solids and the reduction in the structural capacity and stiffness because of the evolution of micro and macro defects in the form of cracks and voids and evolution of localized zones of fracture and failure. This course introduces the student to the state-of-the-art in constitutive modeling and computational techniques for predicting the initiation and evolution of distributed micro-defects (cracks and voids) in solids and structures and their propagation until complete failure. Therefore, unlike Fracture Mechanics which deals with one major crack, this course deals with the distribution of many micro-cracks and micro-voids that lead to degradation in the material mechanical and physical properties. Damage in various brittle and ductile materials (e.g. metal, concrete, polymer, ceramic, asphalt, biomaterial) will be studied. Coupling of damage mechanics with nonlinear and inelastic theories of (visco)elasticity and/or (visco)plasticity for different materials under different loading conditions will be presented in this course. The student will learn how to formulate a continuum damage model and how to implement it in the finite element code Abaqus via the Fortran material subroutines UMAT in Abaqus/Standard and VUMAT in Abaqus/Explicit.

BASIC COURSE OBJECTIVES

The main objectives of this course are: (1) to provide the student with a mathematical foundation for formulating damage models based on the laws of thermodynamics and their coupling with (visco)elastic/(visco)plastic constitutive models; (2) development of computational algorithms and techniques for implementing the coupled rate-independent/rate-dependent damage-elastic/inelastic models in numerical codes such as the finite element method; (3) understand the fundamental mechanisms of damage (micro-cracks and micro-voids) nucleation and evolution in solids and the progressive failure in structural systems.

ASSESSMENT OF STUDENT OUTCOMES

Grading to be based on individual projects and homework assignments related to various aspects of damage mechanics and the use of the well-known finite element software Abaqus through its Fortran user material subroutines (e.g. UMAT, UEL, VUMAT).

The grade distribution adopted in this course is the following:

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tr>
<td>Projects</td>
<td>40%</td>
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<tr>
<td>Homework</td>
<td>60%</td>
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The final grade will be based on the following point scale:

A  \geq 90\%
B  \geq 80\% \& < 90\%
C  \geq 70\% \& < 80\%
D  \geq 60\% \& < 70\%
F  < 60\%

Any grade change you see justified should be brought to the attention of the instructor within one week of receiving the grade.

**IMPORTANT NOTES**

1. **Attendance:** You are expected to attend class, to complete all assignments, and attend all examinations.

2. **Americans with Disabilities Act (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, in Cain Hall, Room B118, or call 845-1637. For additional information visit [http://disability.tamu.edu](http://disability.tamu.edu).

3. **Academic Integrity:** "An Aggie does not lie, cheat or steal, or tolerate those who do." For additional information, please visit: [aggiehonor.tamu.edu](http://aggiehonor.tamu.edu).
   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.

4. **Copyright Statement:** The handouts used in this course are copyrighted. By "handouts," it is meant that all materials that have been generated for this course including those materials generated in all previous semesters. Such materials include but are not limited to syllabi, quizzes, exams, problem sets, worked problems, materials presented on my internet site, in-class materials, review sheets, additional problem sets, and/or solutions prepared for these materials. Because these materials are copyrighted, you do not have the right to copy them, or possess copies of them outside of the normal course uses for which they were intended. Certain violations of these copyrights can be treated as violations of academic integrity and will be handled in accordance with the Aggie Honor System Process described on the following web site: [http://www.tamu.edu/aggiehonor](http://www.tamu.edu/aggiehonor).
### TOPICS TO BE COVERED
(SUBJECTED TO CHANGE)

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
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| 1, 2 | Tensors and indicial notation  
     | Laws of thermodynamics and constitutive modeling |
| 3    | Introduction to fracture mechanics  
     | Why damage mechanics?  
     | Damage definition and experimental measurement |
| 4    | Continuum Damage Mechanics (CDM)  
     | Theoretical and experimental aspects of CDM  
     | Isotropic damage and anisotropic damage |
| 5, 6 | Elastic-damage models and numerical algorithms  
     | Applications to brittle materials (e.g. concrete, ceramics) |
| 7    | Abaqus and its user Fortran subroutines UMAT, VUMAT, UEL  
     | Examples of implementation of well-known constitutive models |
| 8    | Plasticity and viscoplasticity theories |
| 9, 10| Coupled (visco)plastic-damage models and numerical algorithms  
     | Applications to ductile materials (e.g. metals, metal matrix composites) |
| 11   | Creep damage and time-dependent damage  
     | Applications to viscoelastic materials (e.g. polymers, asphalt, and bio materials) |
| 12   | Fatigue damage |
| 13, 14 | Interfacial damage and cohesive zone models  
         | Applications to particle reinforced micro/nano composites and to fiber reinforced composites  
         | Generalized continua, non-local, and gradient-dependent CDM  
         | Applications to strain localization and failure |

### BEST OF LUCK TO ALL OF YOU
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
• Submit original form and attach a course syllabus.

Form Instructions

1. Request submitted by (Department or Program Name): Teaching, Learning, and Culture

2. Course prefix, number and complete title of course: EDCI 605 Qualitative Research Methods in Curriculum and Instruction

3. Catalog course description (not to exceed 50 words): Theoretical and methodological issues related to qualitative inquiry; discussion of qualitative paradigm's ontological, epistemological, and axiological stances; review and implementation of commonly used qualitative research methods and approaches in curriculum and instruction, including narrative, phenomenology, ethnography, grounded theory, and case study approaches.

4. Prerequisite(s): Graduate classification

   Cross-listed with: 

   Stacked with: 

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

5. Is this a variable credit course? ☑ No

   If yes, from _______ to _______

6. 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

7. 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)

   MEd, MS, EdD, and PhD in Teaching, Learning, and Culture.

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

9. Prefix Course # Title (excluding punctuation)

   E D C I 6 0 5 Q U A L R S R C H M T H D S I N C & I

   Lect. Lab SCH CIP and Fund Code Admin. Unit Acad. Year FLCE Code

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   Approval recommended by:

   [Signatures and dates]

   Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.

   Curricular Services – 3/10
Course title and number: EDCI 605: Qualitative Research Methods in Curriculum and Instruction
Term: Semester/Year
Meeting times and location: Day, time, TBA.

Course Description and Prerequisites

Catalog Description: Theoretical and methodological issues related to qualitative inquiry. Discussion of qualitative paradigm's ontological, epistemological, and axiological stances. Review and implementation of commonly used qualitative research methods and approaches in curriculum and instruction, including, but not limited to, narrative, phenomenology, ethnography, grounded theory, and case study approaches.

Prerequisites: Graduate Standing

Course overview

This course reviews the qualitative research methods and approaches in education and social fields with a particular emphasis in curriculum and instruction. Students will learn how to design and conduct a qualitative inquiry from the standpoints of different traditions commonly used in education. These traditions include, but not limited to, narrative research, ethnography, phenomenology, grounded theory, and case study. Students are expected to design, conduct, and report a pilot qualitative study of their choice and reflect upon their experiences throughout the process. Each student completes two projects; (a) a qualitative research study of her own choice and (b) a collaborative Wikibook project on qualitative inquiry that she organizes, writes, edits, and publishes reflections.

Course Objectives

At the end of the course, students are expected to:
- Learn the theoretical foundations of qualitative inquiry and its ontological, epistemological, axiological, and methodological stances.
- Learn the similarities and differences of varied traditions of qualitative inquiry, for example, narrative, ethnography, phenomenology, grounded theory and case study.
- Learn about the different approaches to qualitative inquiry, for example, feminist epistemologies, queer theory, neocolonization, post-structuralist and post-modernist views.
- Design, conduct, and report a pilot qualitative inquiry of their choice.
- Analyze the research methodologists' perspectives on qualitative research.
- Synthesize the methods and approaches presented in the course readings and in the literature.
- Collaborate with their peers in organizing, writing, editing, and publishing their synthesis of the readings (in the form of a Wikibook).
Instructor Information

Name Dr. Bugrahan Yalvac
Telephone number 979-8621713
Email address yalvac@tamu.edu
Office hours Monday, 1:00 pm – 5:00 pm, or by appointment.
Office location 444 Harrington Tower

Class Meeting Context

Because of the nature and the pace of the course, you will be intensively immersed in the readings and the course projects. Every week, you will be asked to read a couple book chapters and/or journal articles. Each student is responsible for reading the course assignments prior to the meetings. If you have any difficulty completing the readings and/or understanding the content, discuss this with the course instructor. In this course, each student is expected to be present in the classroom, having read that week’s assigned chapters/articles, and understood the majority of the content presented. Class meetings are not intended primarily to provide you an instruction in qualitative research methods. At the meetings, we will be discussing the appropriateness of the methods and the approaches portrayed in the readings and asking you to share your views and opinions with us.

At a typical class meeting, we will complete three tasks: (1) discuss the content of the readings from Creswell’s essay, (2) discuss the content of the chapters from Denzin and Lincoln’s essay, and (3) work on our collaborative WikiBook project. Depending upon the weekly tasks and our pace, we may change this typical class meeting schedule and postpone one or more tasks to the upcoming week’s meeting.

Textbooks and Resource Materials

Required Textbooks:


Grading Policies

Your total course grade (100%) is based upon (a) participation in class (30%), and (b) the quality of the course projects (70%). Collaboration is encouraged; you will not be forced into some type of distribution, normal or otherwise.

(a) Participation in class is evaluated as follows (30%; 30 pts total)

1. Adding to class discussion in a meaningful way (up to 10 points)
2. Leading class discussion of assigned readings (up to 10 points)
3. Timely sending your discussion questions to the leaders (up to 10 points)*
* Note that if the assigned discussion leader will not receive your chapter question on time, 1 point will be subtracted from your total course grade.

(b) Course projects (70%, 70 pts total).

Project 1- Independent Qualitative Inquiry Project (40 points)

1. Proposal - 10 points  
2. Revised proposal - 10 points  
3. Final report and presentation - 20 points

Project 2- Collaborative WikiBook Project (30 points)

1. Task I (Writing a chapter) - 10 points  
2. Task II (Editing two chapters) - 5 points  
3. Task III (Providing technical or organizational support) - 10 points  
4. Report of your Task II and Task III accomplishments – 5 points

The printed documents should be written in APA format.

Grade Distributions
A  90-100  
B  82-89  
C  71-81  
F  < 70

Course Topics, Calendar of Activities, Major Assignment Dates

Course Expectations:

--Leading the class discussions- Each week, we will discuss three to four chapters. For each chapter, a student will be assigned to lead the in-class discussion and summarize the main ideas to the group as appropriate. When you plan your discussion session, keep in mind that, to each chapter discussion, we can only devote 30 to 35 minutes maximum. At our first meeting, we will assign the leaders. Because we will be reading dozens of chapters during the semester, you will lead the discussions more than once.

A leader is responsible for deciding on a few of questions (one, two, or three) that will best summarize the main ideas of the chapter she is assigned. As appropriate, questions critiquing the authors’ point of views are welcomed. Leaders should confirm the leading discussion questions with the course instructor one day before the class meeting. Leaders are responsible for emailing the discussion questions (one, two, or maximum three questions) and the list of all other students’ questions (as explained below) to the course instructor by Sunday 10:00 pm. Please see the discussion question template document posted on the course website that leaders should fill it out and send it to the course instructor.

--Generating one question per chapter- Each week, you will be asked to read three to four chapters
prior to attending the class meeting. It is important that you complete these reading assignments as early as possible, not later than Saturday. Each student is responsible for generating one question per chapter and sharing it with the leader of that particular chapter. The chapter leader should receive your question via email by Saturday 10:00 pm. The purpose of generating one question per chapter is two fold: one is that it ensures everyone is reading the chapters and the other is that we are helping the leaders decide on the leading discussion questions. The leaders will compile all students’ questions into one MS Word document along with the senders’ names and the dates they are received. A template of the document the leader will compile is posted on our course website. The leader will decide on a couple of questions (one to three maximum) from that pool of items other students have generated, or will generate new questions from scratch. Leaders can edit or modify their peers’ questions and use them to write up the main in-class discussion questions. The leader will email this document (all questions she received and the main leading questions she has decided on) to the course instructor by Sunday 10:00 pm. Your course instructor will review the document and send an email back to the leader either to confirm that the leading questions are appropriate or to make modifications and/or changes on the questions. These questions will be posted on our course website (elearning.tamu.edu) on Monday couple hours prior to our meeting.

--Individual Course Project-- Each student is expected to design, conduct, and report a small, independent qualitative inquiry. You will submit three reports of your project work during the semester: (1) a brief proposal by March 1, (2) a revised report of your proposal and data collection accomplishments or plans by March 20, and (3) a final report of your completed inquiry by May 3. The final report should be a journal-article-length paper (not exceeding 30 pages including the bibliography) presenting your research with emphasis on methodological processes and choices as well as results and conclusions. By the end of the semester, each student will present a report of her qualitative inquiry to the group. The details of your presentation and its format will be discussed in class. You are required to post all of your project reports to the designated sites on our elearning course website (elearning.tamu.edu). As needed, you may be asked to meet with the course instructor at the times other than the class meetings to discuss your independent qualitative inquiry project and your accomplishments in this course. By April 15, you should have submitted the transcriptions of your interviews and/or observations and the codes you have generated to the designated link on the course site. The transcriptions and the codes will not be graded, but your course instructor will read them in order to make sense of your final report.

Optional IRB approval: If you plan presenting or publishing your individual course project findings at a conference or at a peer-reviewed journal after the semester ends, then you have to talk to the course instructor early in the semester, preferably before the first proposal project is due (which is on March 1). The data you will collect for this project cannot be published or presented unless your study is approved by the Institutional Review Board (IRB) and your participants’ official consent is obtained. You need to prepare the IRB approval forms weeks before you collect your data. The IRB approval process takes two to three weeks and it will require a detailed description of your study. Your course instructor is willing to help you write the IRB approval forms. You are encouraged to complete the IRB approval and publish your findings after you complete your project; however this task is optional and not required to pass this course.

-- Collaborative Course Project-- The second course project in which all students are required to participate is to write an electronic book on qualitative inquiry. In this project, you will work with your
peers in and off-class meeting times during the entire semester, in designing, organizing, writing, editing, and publishing the final product; A Wiki-Book on qualitative inquiry (an example can be seen on wikis.tamu.edu).

A student in class will have the following three responsibilities (three tasks to complete) in this project:

**TASK I: Write a chapter in the book:** Each student will be the primary author of a chapter in the book we will be writing together. You are free to choose any theme or topic for your chapter as far as it is relevant to the qualitative inquiry and it could be located in the table of contents. Note that because we will be shaping the content organization of the book together, we welcome any of the ideas you may have and try to accommodate them in the book. In your chapter, you can include web links to other media on the Internet (e.g., a link to a YouTube clip).

For the ones who prefer more guidance on choosing a chapter theme, some possible topics are listed below.

1. **A tradition or a framework**
   You can choose a tradition (e.g., narrative, phenomenology, ethnography, grounded-theory, or case studies) and summarize its theoretical and conceptual frameworks and/or practical applications along with your reflections.

2. **An approach or a standpoint in research**
   You can choose an approach on qualitative inquiry (e.g., feminist approach, critical theory, queer theory, neocolonization, post-structuralist and/or post-modernist views) and summarize its theoretical and conceptual frameworks and/or practical application along with your reflections.

3. **A review of a book on qualitative inquiry**
   You can choose a book on qualitative inquiry and write a review of it in one of the Wikibook chapters. In your review, you can include your reflections or critiques as well as criticisms.

4. **A dilemma in the literature or in your own work**
   You can identify a tension or a dilemma presented in the literature or one you have personally encountered through your readings, fieldwork, or analysis of the study you are conducting.

The due date for writing your chapter draft will be negotiated in class. You are also expected to revise your chapter based on your peer reviewers’ comments. All of the Wikibook project work will be online. For our communication purposes, we will heavily rely on the elearning course site (elearning.tamu.edu) and electronic mail.

**Task II- Review and edit two chapters:** Each student is responsible for reviewing and editing two chapters that other students will have written. Your course instructor will track these reviews on the Wikibook site. The due date for the reviews will be set by one of the class members.
**Task III- Provide technical and organizational support:** Each student is going to take a leadership role in one of the technical or organizational aspects of our WikiBook writing project. As we work on the project and accomplish some tasks through the semester, new leadership roles will emerge, and your help will be solicited. Below are some tasks that you may consider volunteering. Note that in some areas, we may need more than one student to lead.

- Setting the deadlines and announcing to all.
- Organizing the table of content.
- Assigning the reviewers to the chapters and tracking the completed and incomplete reviews.
- Writing an introduction or a preface to our WikiBook.
- Reviewing the bibliography sections of each chapter and confirming the consistency of the citations.
- Providing technical support to others (Helping others upload, edit, or make changes in the site).
- Designing images and/or taking pictures to include in the book.
- Creating and checking hyperlinks in the book.

In our first class meeting, we will discuss the potential tasks and areas each student can contribute. Either in the beginning or through the semester, each student will identify a role and accomplish it as needed. By the end of the semester, you will summarize your Task II and Task III accomplishments to the class and provide us an overview of your WikiBook chapter. Class members and the course instructor will collaboratively evaluate your WikiBook project performance.

**Attendance**—The University views class attendance as the responsibility of an individual student. In our case, this is posting and replying to messages on time. 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). If you must miss class, please notify me in advance to discuss the situation.

**Weekly Class Schedule, Topics, and Required Readings**

Topics for our weekly discussions and required readings are listed above. Please note that you should complete your readings before Monday each week.

**Week 1: Review of course syllabus, student projects, group assignments and terminology.**

There is no reading assignment prior to attending the first meeting. This week we will introduce ourselves to the group members and discuss some key terms in qualitative inquiry.

**Week 2: Frameworks on qualitative inquiry**


**Week 3: Design of a qualitative inquiry**


**Week 4: Five qualitative approaches to inquiry**


**Week 5: Examples of qualitative research and critical standpoints**


**Week 6: Question formation and strategies of inquiry**

Chapter 6- Introducing and Focusing the Study in “Creswell, J. W. (2007). Qualitative inquiry and


**Week 7: Data collection and strategies of inquiry**


**Week 8: Data collection and strategies of inquiry (Continue)**


**Week 9: Data analysis and perspectives in contention**


**Week 10: Writing a qualitative study and data analysis**


**Week 11: Interpretation, evaluation, and presentation**


**Week 12: Writing a conclusion and the future of qualitative research**


**Week 13: Afterthought and the future of qualitative research**


**Week 14: Submission of final course projects and their reviews.**

Submit your final research report and complete the WikiBook project.

**Writing Guidelines**


For guidelines on writing with academic integrity: http://www.utexas.edu/depts/dos/sjs/academicintegrity.html

**Recommended Readings**


**University Policies**

*Policy on Scholastic Dishonesty*: Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from
The University. Since such dishonesty harms the individual, all students, and the integrity of The University, policies on scholastic dishonesty will be strictly enforced.

**Plagiarism:** 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 ailments, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated.

**Americans With Disabilities Act:** 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, in Cain Hall, Room B118, or call 845-1637. For additional information visit [http://disability.tamu.edu](http://disability.tamu.edu).

**Statement on Diversity (approved by the Department of TLAC):** The Department of Teaching, Learning and Culture (TLAC) does not tolerate discrimination, violence, or vandalism. TLAC is an open and affirming department for all people, including those who are subjected to racial profiling, hate crimes, heterosexism, and violence. We insist that appropriate action be taken against those who perpetrate discrimination, violence, or vandalism. Texas A&M University is an Affirmative Action and Equal Opportunity institution and affirms its dedication to non-discrimination on the basis of race, color, religion, gender, age, sexual orientation, domestic partner status, national origin, or disability in employment, programs, and services. Our commitment to non-discrimination and affirmative action embraces the entire university community including faculty, staff, and students.

**Academic Integrity Statement:** This course supports this statement:

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

According to the Dean of Faculties, all syllabi shall contain a section that states the Aggie Honor Code and refers the student to the Honor Council Rules and Procedures on the web: [http://www.tamu.edu/aggiehonor/](http://www.tamu.edu/aggiehonor/).

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.

It is further recommended that instructors print the following on assignments and examinations: "On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work."

**On-line Course Evaluations**

Through the semester, you will be asked to review this course and the instructor two times, once in
mid-semester and once at the end of the semester. The questionnaire will be located on https://pica.tamu.edu and you will be notified via email when it is posted.

Your responses to the questionnaire items will not influence your course grade or your other credentials at your program. Your name will not be disclosed next to your responses and your identification will not be known. The course instructor will access the overall evaluations only after the course grades are submitted.
Texas A&M University

Departmental Request for a New Course
Undergraduate • Graduate • Professional

• Submit original form and attach a course syllabus.

Form Instructions

1. Request submitted by (Department or Program Name): Teaching, Learning and Culture

2. Course prefix, number and complete title of course: EDCI 686 Research Methods in EDCI: 1

3. Catalog course description (not to exceed 50 words): Framework for understanding distinctions among research methodologies used in the field of curriculum and instruction; includes classes of research questions, methods of collecting and decisioning evidence, theoretical assumptions, strengths, weaknesses, and the work of major proponents.

4. Prerequisite(s): Admission into TLAC Doctoral Program

Cross-listed with: Stacked with:

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

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

6. 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

7. 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)

   Ph.D in Curriculum and Instruction

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

9. Prefix Course # Title (excluding punctuation)

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<th>Lect.</th>
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Level 6

Approval recommended by:

Dennis Smith
Department Head or Program Chair (Type Name & Sign) Date

Chair, College Review Committee Date

Dean of College Date

Mark Zoran
Chair, GC or UCC 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 – 3/10
EDCI 686: Research Methods in EDCI: 1

Course Syllabus (Spring, 2012)

Tuesdays 5:45 - 8:35 PM

Dr. Hersh C. Waxman
Office: Harrington (EDCT) 361 and State of Texas Education Research Center at Texas A&M University (111 Harrington Tower)
Office Hours: Tuesdays 3:30-5:30 PM and by appointment
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Prerequisites: Admission into TLAC doctoral Program

Course Description: Designed to provide TLAC doctoral students with a framework that will allow them to understand distinctions among research methodologies used in the field of curriculum and instruction, including classes of research questions, methods of collecting and decisioning evidence, theoretical assumptions, strengths, weaknesses, and the work of major proponents.

The EDCI three-part sequence of research courses (EDCI 686, EDCI 687, & EDCI 688) has several major goals. First, they provide an overview of the present context of scientific research in field of curriculum and instruction. The courses will discuss research issues related to federal policy (e.g., No Child Left Behind legislation), the credibility of educational research, research-based evidence in education, and the usefulness of research in education (i.e., the impact of research on educational practice. The dichotomy between perspectives of faculty (i.e., researchers) and doctoral students (i.e., practitioners) also will be examined (Labaree, 2003; Neumann, Pallas, & Peterson, 1999). These context issues will guide most of our discussions throughout the three research courses.

Another major goal of these courses pertains to developing the critical analysis skills necessary to read and understand research in the field of curriculum and instruction. Technical or methodological proficiency is an important research skill, but it is not sufficient to carry out high-quality research. Meltzoff (1998) states that it, "it is necessary to learn how to critique research and then to make a habit of sifting all incoming offerings through a sieve whose openings are small enough to permit only the truths or near-truths to fall through (p. xiii)." If
students can improve their skills in detecting plausible rival hypotheses or alternative interpretations that are different from the interpretation made by the researcher, then the quality of their own research will improve (Huck & Sandler, 1979). Therefore, the EDCI research course sequence emphasizes the development of “thoughtfulness” or “reflectiveness” about research (Seltzer & Rose, 2003). These courses help prepare students to critically analyze educational studies, develop thoughtfulness about research, and distinguish research from advocacy. These are some of the most important skills that students (and all professionals) need to learn because of the poor quality of research in education as well as in other fields.

A third major goal of the EDCI research course sequence is to learn about the variety of research methods that are used in the field of curriculum and instruction. There are a variety of appropriate methods in education and these courses provide students with opportunities to learn about when various methods are appropriate. In educational research, the answers we develop are shaped: (a) by the form of questions we ask and (b) by the methods we use to resolve them (Clark, 1979). Unfortunately, investigators' personal commitments to a given research methodology have guided and shaped the research process by affecting their choice of design, instrumentation, and interpretation of data (Dunkin & Biddle, 1974). As Kaplan (1963) puts it, "it comes as no particular surprise to discover that a scientist formulates problems in a way which requires for their solution just those techniques in which he himself is specially skilled (p. 28).” Tanner (1998) describes this phenomena in the following way, "many researchers choose the instrument and set the conditions in an effort to prove their premises, or they set the stage for measuring the easily measured (p. 346)."

Awareness of a variety of research methodologies can broaden our approach and perspective on research problems and change our ways of thinking about what we can study and how we can study it (Kerlinger, 1977). Doctoral students need to be aware of the “full rich variety of methods that comprise the family of disciplined inquiry in educational research” (Shulman, 1981, p. 12). The most effective programs of educational research reflect intelligent deployment of a diversity of research methods applied to their appropriate research questions (Shulman, 1981, 1986).

**Research Methods/Paradigms**

The EDCI research course sequence (EDCI 686, EDCI 687, & EDCI 688) present an overview of research methodologies and research paradigms infield of curriculum and
instruction. A research methodology is a specific technique or strategy of inquiry, while a research paradigm is a matrix of belief and assumptions about the nature and purpose of a phenomenon that gives shape to specific forms of inquiry (Zeichner, 1983). Padilla (1990) states that the importance of scientific paradigms is that they "orient and guide the thinking about researchable problems, theory, methods, and interpretation of data" (p. 18). In other words, a paradigm is an accepted and shared model of research where the same rules and standards are applied (Kuhn, 1970). It is a way of conceptualizing research. It represents the perspective of the researcher toward the problems being studied. According to Reichardt and Cook (1979), "a paradigm includes not only a philosophical world view but also a linkage to certain type of research method" (p. 11). Consequently, the paradigm determines the research methodology.

The courses' dual emphasis on methodologies and paradigms allows doctoral students to understand how theoretical considerations determine the appropriate analytic tools that should be used in the field of curriculum and instruction. It is also important to understand differences among research traditions because informed educators need to get a sense of how the evidence from each tradition or data source is analyzed and how inferences are drawn (Walker, 1992).

For each research method/paradigm, we will examine the type of questions addressed, the methods used, substantive findings, and policy implications. We will typically examine and critique the substantive research in the area by: (a) reading studies from research journals, (b) completing paper-and-pencil research activities that focus on authentic or "real-life" research situations, and (c) reading and discussing issues that have important policy implications. Students will have the opportunity to work both independently and cooperatively on the research activities. There also will be ample opportunity for students to address specific questions they have about research in their own areas of expertise. Finally, we will examine the research and policy implications of many current issues in the field of curriculum and instruction that arise during the academic year.

**Objectives of the EDCI Research Sequence (EDCI 686, EDCI 687, & EDCI 688)**

This three-course sequence is designed to introduce doctoral students in TLAC to all aspects of the research process. Students will be involved in formulating, critically reviewing, designing, and evaluating research studies. More specifically, this course is designed to provide TLAC doctoral students with a framework that will allow them to demonstrate the following competencies:

(1) to understand the wide range of research methodologies in educational research.
(2) to understand the strengths, weaknesses, and appropriate uses of those research methodologies.
(3) to understand a range of substantive research problems and research paradigms in education.
(4) to understand distinctions among research paradigms in education, including classes of research questions, methods of collecting and decisioning evidence, theoretical assumptions, strengths, weaknesses, and the work of major proponents.
(5) to critically analyze educational research.
(6) to understand basic principles of descriptive and inferential statistics and their application in context of various research paradigms.
(7) to understand the basic principles of descriptive and multivariate analyses and their application in educational research.
(8) to understand and appropriately use data analysis software, write-up the results in both table and narrative format, and interpret the results.
(9) to understand the influence of research on educational policy.
(10) to propose and design purposeful research studies in education.
(11) to understand the importance of presenting and utilizing research findings in educational settings.

**Course Pedagogy:**

The course will be taught using the Five Standards of Effective Pedagogy (Tharp, 1997; Tharp, Estrada, Dalton, & Yamauchi, 2000). The five standards are: (a) Teacher and Students Producing Together, (b) Developing Language and Literacy Across the Curriculum, (c) Making Meaning: Connecting School to Student’s Lives, (d) Teaching Complex Thinking, and (e) Teaching Through Conversation.

The first standard, Teacher and Students Producing Together, indicates that the classroom environment will be collaborative. In other words, there will be many opportunities in class where students will work together (i.e., cooperatively) to produce specified products (i.e., assignments). Students also are encouraged to study together outside of class.

The second standard, Developing Language, indicates that the course will emphasize learning the language of educational research as well as the content. In other words, students will learn how to appropriately talk about and describe educational research (i.e., use the current vocabulary). We will often, for example, examine the new vocabulary for the week.

The third standard, Making Meaning, suggests that an important aspect of the course will be connecting what we learn about educational research to students’ personal interests and prior experiences. In other words, we will highlight the need to contextualize the knowledge we learn
about research to everyday issues and concerns. Students need to share their own research interests as well as share how research impacts their own personal experiences.

The fourth standard, teaching complex thinking, illustrates the point that the course will focus on developing students’ higher-level thinking skills such as analyzing, synthesizing, and evaluating research situations. Exams, for example, will therefore typically include items where students will critically analyze research studies, and synthesize and evaluate research salient attributes of research methods. Other assignments and projects will similarly involve complex thinking processes (e.g., writing).

The fifth standard, Instructional Conversation, suggests that there will be more dialogue and discussion in class than lecture. I rarely lecture in class! I always expect students to be prepared to critically discuss the issues addressed in the assigned readings. Everyone’s learning is enhanced through dialogue and it is strongly encouraged here.

**Course Requirements:**

The grading system used in EDCI 686 is based on the following criteria:

(a) Attendance, participation, in-class activities, homework, and unannounced quizzes  
10 points

(b) Article Critiques  
20 points

(b) Formative Exam I  
40 points

(c) Formative Exam II  
50 points

(d) Summative Exam  
80 points

*Final grades for each course will be assigned according to the following criteria:*

   200 - 190 = A
   189 - 180 = B
   179 - 170 = C
   169 - 160 = D
   159 - 0 = F

**Examinations:**

It is expected that all students will take and complete the formative and summative examinations at the assigned times. The examinations typically will consist of short-answer and essay responses. The exams also may include interpretive exercises where students will have to answer objective-based items after critically analyzing a problem. In addition, students will be responsible for: (a) critically analyzing research studies, (b) synthesizing content covered in class and in the readings, and (c) making informed decisions related to educational policy and practice based on research findings.
Some of the exams or parts of the formative and summative examinations may include "take-home" or "online" components, where students will either read articles and/or answer questions at home or online. Typically, research articles will be assigned in advance and students will have to critique the articles in class.

**Article Critiques**

For each research method we examine this semester (e.g., meta-analysis, experimental research, case studies, ethnography, content analysis, or narrative inquiry), each student will be responsible for critiquing a substantive research article that will be distributed to them. Students will be expected to complete **two** written critiques and submit each one by their assigned due dates that are listed on the "Tentative Class Schedule. Each critique should be approximately 3-4 pages and explicitly answer the 12 questions listed on the review guidelines. The guidelines for the critique will be distributed during the first week of class.

**Textbooks/Readings:**

It is expected that students will have all the assigned readings and homework (including Student Mastery Activities) completed **before** each class begins. We will review student answers from the Patten (2009) book, for example, nearly every week. In addition to the assigned readings from the textbooks, there will be several articles that will be assigned as required reading for the course. These articles typically will be distributed in class or online the week before they are due.

**The required textbooks for EDCI 686 are:**


**Some recommended books for these courses are:**


**Americans With Disabilities Act:**

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, in Cain Hall, Room B118, or call 845-1637. For additional information visit [http://disability.tamu.edu](http://disability.tamu.edu).

**Statement of Plagiarism:**

The handouts used in the 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, web pages 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 offences, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. If you have any questions regarding plagiarism, please consult the website for the *Texas A & M University Aggie Honor System Office*, under the section "Definitions of Academic Misconduct". [http://aggiehonor.tamu.edu/Student%20Rules/definitions.html](http://aggiehonor.tamu.edu/Student%20Rules/definitions.html)

**Academic Integrity Statement:**

This course supports this statement: "An Aggie does not lie, cheat or steal, or tolerate those who do." According to the Dean of Faculties, all syllabi shall contain a section that states the Aggie Honor Code and refers the student to the Honor Council Rules and Procedures on the web: [http://www.tamu.edu/aggiehonor/](http://www.tamu.edu/aggiehonor/). 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.

**Diversity Statement for the Department of Teaching, Learning, and Culture:**

The Department of Teaching, Learning, and Culture (TLAC) does not tolerate discrimination, violence, or vandalism. TLAC is an open and affirming department for all people, including those who are subjected to racial profiling, hate crimes, heterosexism, and violence. We insist that appropriate action be taken against those who perpetrate discrimination, violence, or vandalism. Texas A & M University is an Affirmative Action and Equal Opportunity institution and affirms its dedication to non-discrimination on the basis of race, color, religion, gender, age, sexual orientation, domestic partner status, national origin, or disability in employment, programs, and services. Our commitment to non-discrimination and affirmative action embraces the entire university community including faculty, staff, and students.

**Student Attendance:**

The university views class attendance as an individual student responsibility. Students are expected to attend class and to complete all assignments. Class will begin promptly at the scheduled time and end promptly at the scheduled time. Students are responsible for all material they miss when they are absent or late. If you have any questions regarding student attendance, please consult the *Texas A&M University Student Rules*, under the section “Student Attendance.”

http://student-rules.tamu.edu/rule07

**On-Line Student Evaluations:**

All students are expected to complete the on-line evaluations for the course.

https://pica.tamu.edu

**Student Concerns**

If you have a concern about any aspect of the course, I would appreciate it if you could let me know as soon as possible. If I cannot resolve the issue to your satisfaction, then you are expected to complete the TLAC Concern/Opportunity/Acknowledge (COAF) Form and submit it to the TLAC Department Head.
<table>
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<tr>
<th>Date</th>
<th>Topics</th>
<th>Assignments DUE</th>
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| Wk 1  | Overview of Course  
Context of C & I Rsch in the 21st Century  
Rival Hypotheses | Gall et al. #1, #2  
Patten #1 - 10, 13  
NRC Exec Summary & #1 |
| Wk 2  | Overview of Research Methods in C & I  
Nature of Ed. Rsch  
Role of Theory in Rsch  
The Research Problem  
Research Questions and Hypotheses | Gall et al. #3  
Patten #12  
NRC #2 & 3  
Green et al. #3 |
| Wk 3  | Ethics and Research  
Institutional Review Boards (IRB) | Gall et al. #4  
Patten #14 - 19, #58-63; Apndx A, B, C, & E  
NRC #4 & 5  
Green et al. #25 |
| Wk 4  | Reviewing the Literature  
Research Syntheses/Meta-Analysis | Gall et al. #6 & #7  
Patten #20 - 36  
NRC #6 |
| Wk 5  | Sampling/Measurement  
Reliability and Validity  
Instrumentation | Gall et al. #6 & #7  
Patten #20 - 36  
NRC #6 |
| Wk 6  | **FORMATIVE EXAM I** | **FORMATIVE EXAM I** |
| Wk 7  | Experimental Research  
Internal Validity  
Quality of Educational Research | Gall et al. #12 & 13  
Patten #37-42  
Green et al. #32 & #33 |
| Wk 8  | Experimental Research  
Designing Research Studies | Gall et al. #14  
Patten #64-70  
Green et al. #6 & 7 |
| Wk 9  | Observational Research  
Content Analyses | Gall et al. #15  
Green et al. #16 |
| Wk 10 | Qualitative Research  
Case Study Methods | Gall et al. #16  
Green et al. #17 & #34 |
| Wk 11 | Qualitative Research  
Ethnography | Gall et al. #28 & #5  
ARTICLE CRITIQUE #2 |
| Wk 12 | **FORMATIVE EXAM II** | **FORMATIVE EXAM II** |
| Wk 13 | Qualitative Research | Gall et al. #28 & #5  
ARTICLE CRITIQUE #2 |
| Wk 14 | Narrative Inquiry  
Arts-Based Educational Research | Gall et al. #15  
Green et al. #16 |
| Finals | **SUMMATIVE EXAM** | **SUMMATIVE EXAM** |
References

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

Form Instructions

1. Request submitted by (Department or Program Name): Teaching, Learning and Culture

2. Course prefix, number and complete title of course: EDCI 687 Research Methods in EDCI

3. Catalog course description (not to exceed 50 words): Framework for understanding distinctions among research methodologies used in the field of curriculum and instruction; includes classes of research questions, methods of collecting and decisioning evidence; basic principles of descriptive and inferential statistics and their application in context of various research paradigms.

4. Prerequisite(s): EDCI 686 Research Methods in EDCI

Cross-listed with: Stacked with:

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

5. Is this a variable credit course? Yes No

If yes, from ______ to ______

6. 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

7. 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)

PhD in Curriculum and Instruction

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

Attach approval letters.

9. Prefix Course # Title (excluding punctuation)
   EDCI 687 Research Methods in EDCI

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<tr>
<th>Lect.</th>
<th>Lab</th>
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<th>Admin. Unit</th>
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Approval recommended by:

Dennie Smith
Department Head or Program Chair (Type Name & Sign) Date

(If cross-listed course)

Department Head or Program Chair (Type Name & Sign) Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@amu.edu.
Curricular Services – 3/10
EDCI 687: Research Methods in EDCI: II

Course Syllabus (Fall, 2012)

Tuesdays 5:45 - 8:35 PM

Dr. Hersh C. Waxman

Office: Harrington (EDCT) 361 and State of Texas Education Research Center at Texas A&M University (111 Harrington Tower)

Office Hours: Tuesdays 3:30-5:30 PM and by appointment

Office Phone: (979) 845-8384

e-mail: hwaxman@tamu.edu

Prerequisites: Completion of EDCI 686: Research Methods in EDCI: I

Course Description: Analysis and interpretation of distinctions among research methodologies used in the field of curriculum and instruction, including classes of research questions, methods of collecting and decisioning evidence, and basic principles of descriptive and inferential statistics.

The EDCI three-part sequence of research courses (EDCI 686, EDCI 687, & EDCI 688) has several major goals. First, they provide an overview of the present context of scientific research in the field of curriculum and instruction. The courses will discuss research issues related to federal policy (e.g., No Child Left Behind legislation), the credibility of educational research, research-based evidence in education, and the usefulness of research in education (i.e., the impact of research on educational practice. The dichotomy between perspectives of faculty (i.e., researchers) and doctoral students (i.e., practitioners) also will be examined (Labaree, 2003; Neumann, Pallas, & Peterson, 1999). These context issues will guide most of our discussions throughout the three research courses.

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**Research Methods/Paradigms**

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4. to understand distinctions among research paradigms in education, including classes of research questions, methods of collecting and decisioning evidence, theoretical assumptions, strengths, weaknesses, and the work of major proponents.
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(6) to understand basic principles of descriptive and inferential statistics and their application in context of various research paradigms.
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(8) to understand and appropriately use data analysis software, write-up the results in both table and narrative format, and interpret the results.
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(11) to understand the importance of presenting and utilizing research findings in educational settings.

Course Pedagogy:

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The second standard, Developing Language, indicates that the course will emphasize learning the language of educational research as well as the content. In other words, students will learn how to appropriately talk about and describe educational research (i.e., use the current vocabulary). We will often, for example, examine the new vocabulary for the week.

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The fourth standard, teaching complex thinking, illustrates the point that the course will focus on developing students’ higher-level thinking skills such as analyzing, synthesizing, and evaluating research situations. Exams, for example, will therefore typically include items where students will critically analyze research studies, and synthesize and evaluate research salient attributes of research methods. Other assignments and projects will similarly involve complex thinking processes (e.g., writing).
The fifth standard, Instructional Conversation, suggests that there will be more dialogue and discussion in class than lecture. I rarely lecture in class! I always expect students to be prepared to critically discuss the issues addressed in the assigned readings. Everyone’s learning is enhanced through dialogue and it is strongly encouraged here.

**Course Requirements:**

The grading system used in EDCI 687 is based on the following criteria:

(a) Attendance, participation, in-class activities, homework, and unannounced quizzes 10 points

(b) Descriptive Research Assignment 10 points

(b) Formative Exam I 40 points

(c) Formative Exam II 60 points

(d) Summative Exam 80 points

**Final grades** for each course will be assigned according to the following criteria:

- 200 - 190 = A
- 189 - 180 = B
- 179 - 170 = C
- 169 - 160 = D
- 159 - 0 = F

**Examinations:**

It is expected that all students will take and complete the formative and summative examinations at the assigned times. The examinations typically will consist of short-answer, and essay responses. The exams also may include interpretive exercises where students will have to answer objective-based items after critically analyzing a problem. In addition, students will be responsible for: (a) critically analyzing research studies, (b) synthesizing content covered in class and in the readings, and (c) making informed decisions related to educational policy and practice based on research findings.

Some of the exams or parts of the formative and summative examinations may include “take-home” components, where students will either read articles and/or answer questions at home. Typically, research articles will be assigned in advance and students will have to critique the articles in class. One part of the summative examination may include an oral examination component, where students will meet individually with the professor and orally answer questions they are asked.

**Textbooks/Readings:**
It is expected that students will have all the assigned readings and homework (including Student Mastery Activities) completed before each class begins. We will review student answers from the Patten (2009) book, for example, nearly every week. In addition to the assigned readings from the textbooks, there will be several articles that will be assigned as required reading for this course. These articles typically will be distributed in class or online the week before they are due.

The **required textbooks for EDCI 687 are:**


Some **recommended books for these courses are:**


Americans With Disabilities Act:

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, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu.

Statement of Plagiarism:

The handouts used in the 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, web pages 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 offences, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. If you have any questions regarding plagiarism, please consult the website for the Texas A & M University Aggie Honor System Office, under the section "Definitions of Academic Misconduct". http://aggiehonor.tamu.edu/Student%20Rules/definitions.html

Academic Integrity Statement:

This course supports this statement: "An Aggie does not lie, cheat or steal, or tolerate those who do." According to the Dean of Faculties, all syllabi shall contain a section that states the Aggie Honor Code and refers the student to the Honor Council Rules and Procedures on the web: http://www.tamu.edu/aggiehonor/. 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.

**Diversity Statement for the Department of Teaching, Learning, and Culture:**

The Department of Teaching, Learning, and Culture (TLAC) does not tolerate discrimination, violence, or vandalism. TLAC is an open and affirming department for all people, including those who are subjected to racial profiling, hate crimes, heterosexism, and violence. We insist that appropriate action be taken against those who perpetrate discrimination, violence, or vandalism. Texas A & M University is an Affirmative Action and Equal Opportunity institution and affirms its dedication to non-discrimination on the basis of race, color, religion, gender, age, sexual orientation, domestic partner status, national origin, or disability in employment, programs, and services. Our commitment to non-discrimination and affirmative action embraces the entire university community including faculty, staff, and students.

**Student Attendance:**

The university views class attendance as an individual student responsibility. Students are expected to attend class and to complete all assignments. Class will begin promptly at the scheduled time and end promptly at the scheduled time. Students are responsible for all material they miss when they are absent or late. If you have any questions regarding student attendance, please consult the Texas A&M University Student Rules, under the section “Student Attendance.”

http://student-rules.tamu.edu/rule07

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https://pica.tamu.edu

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References

Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional

• Submit original form and attach a course syllabus.

Form Instructions

1. Request submitted by (Department or Program Name): Teaching, Learning and Culture

2. Course prefix, number and complete title of course: EDCI 688 Research Methods in EDCI: III

3. Catalog course description (not to exceed 50 words): Framework for understanding distinctions among research methodologies used in the field of curriculum and instruction; includes classes of research questions, methods of collecting and decisioning evidence; basic principles of multivariate statistics and their application in context of various research paradigms.

4. Prerequisite(s): EDCI 687 Research Methods in EDCI: I

Cross-listed with: Stacked with:

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

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

6. 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

7. 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)

   PhD in Curriculum and Instruction

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

9. Prefix Course # Title (excluding punctuation)

| E | D | C | I | 6 | 8 | 8 | R | S | C | H | M | T | H | D | S | I | N | E | D | C | I | 1 | 1 | 1 | I |
| Lect. | Lab. | SCH | CIP and Fund Code | Admin. Unit | Acad. Year | FICE Code |
| 0 | 3 | 0 | 0 | 3 | 1 | 3 | 0 | 3 | 0 | 1 | 0 | 0 | 2 | 8 | 0 | 4 | 1 | 1 | 1 | 2 | 0 | 0 | 3 | 6 | 3 | 2 |

Approval recommended by:

Dennie Smith
Department Head or Program Chair (Type Name & Sign) Date

Department Head or Program Chair (Type Name & Sign) Date
(If cross-listed course)

Submitted to Coordinating Board by:

Associate Director, Curricular Services

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services – 3/10
EDCI 688: Research Methods in EDCI: III
Course Syllabus (Spring, 2012)

Tuesdays 5:45 - 8:35 PM

Dr. Hersh C. Waxman
Office: Harrington (EDCT) 361 and State of Texas Education Research Center at Texas A&M University (111 Harrington Tower)
Office Hours: Tuesdays 3:30-5:30 PM and by appointment
Office Phone: (979) 845-8384
e-mail: hwaxman@tamu.edu

Prerequisites: Completion of EDCI 687: Research Methods in EDCI: II

Course Description: Analysis and interpretation of distinctions among research methodologies used in the field of curriculum and instruction, including classes of research questions, methods of collecting and decisioning evidence, and basic principles of multivariate statistics, and their application in context of various research paradigms.

The EDCI three-part sequence of research courses (EDCI 686, EDCI 687, & EDCI 688) has several major goals. First, they provide an overview of the present context of scientific research in the field of curriculum and instruction. The courses will discuss research issues related to federal policy (e.g., No Child Left Behind legislation), the credibility of educational research, research-based evidence in education, and the usefulness of research in education (i.e., the impact of research on educational practice. The dichotomy between perspectives of faculty (i.e., researchers) and doctoral students (i.e., practitioners) also will be examined (Labaree, 2003; Neumann, Pallas, & Peterson, 1999). These context issues will guide most of our discussions throughout the three research courses.

Another major goal of these courses pertains to developing the critical analysis skills necessary to read and understand educational research in the field of curriculum and instruction. Technical or methodological proficiency is an important research skill, but it is not sufficient to carry out high-quality research. Meltzoff (1998) states that it, "it is necessary to learn how to critique research and then to make a habit of sifting all incoming offerings through a sieve whose openings are small enough to permit only the truths or near-truths to fall through (p. xiii)." If students can improve their skills in detecting plausible rival hypotheses or alternative interpretations that are different from the interpretation made by the researcher, then the quality of their own research will improve (Huck & Sandler, 1979). Therefore, the EDCI research course sequence emphasizes the development of “thoughtfulness” or “reflectiveness” about research (Seltzer & Rose, 2003). These courses help prepare students to critically analyze educational studies, develop thoughtfulness about research, and distinguish research from advocacy.

A third major goal of the EDCI research course sequence is to learn about the variety of research methods that are used in the field of curriculum and instruction. There are a variety of
appropriate methods in education and the courses in the research sequence provide students with opportunities to learn about when various methods are appropriate. In educational research, the answers we develop are shaped: (a) by the form of questions we ask and (b) by the methods we use to resolve them (Clark, 1979). Unfortunately, investigators' personal commitments to a given research methodology have guided and shaped the research process by affecting their choice of design, instrumentation, and interpretation of data (Dunkin & Biddle, 1974). As Kaplan (1963) puts it, "it comes as no particular surprise to discover that a scientist formulates problems in a way which requires for their solution just those techniques in which he himself is specially skilled (p. 28)." Tanner (1998) describes this phenomena in the following way, "many researchers choose the instrument and set the conditions in an effort to prove their premises, or they set the stage for measuring the easily measured (p. 346)."

Awareness of a variety of research methodologies can broaden our approach and perspective on research problems and change our ways of thinking about what we can study and how we can study it (Kerlinger, 1977). Doctoral students need to be aware of the "full rich variety of methods that comprise the family of disciplined inquiry in educational research" (Shulman, 1981, p. 12). The most effective programs of educational research reflect intelligent deployment of a diversity of research methods applied to their appropriate research questions (Shulman, 1981, 1986).

**Research Methods/Paradigms**

The EDCI research sequence (EDCI 686, EDCI 687, EDCI 688) present an overview of research methodologies and research paradigms in the field of curriculum and instruction. A research methodology is a specific technique or strategy of inquiry, while a research paradigm is a matrix of belief and assumptions about the nature and purpose of a phenomenon that gives shape to specific forms of inquiry (Zeichner, 1983). Padilla (1990) states that the importance of scientific paradigms is that they "orient and guide the thinking about researchable problems, theory, methods, and interpretation of data" (p. 18). In other words, a paradigm is an accepted and shared model of research where the same rules and standards are applied (Kuhn, 1970). It is a way of conceptualizing research. It represents the perspective of the researcher toward the problems being studied. According to Reichardt and Cook (1979), "a paradigm includes not only a philosophical world view but also a linkage to certain type of research method" (p. 11). Consequently, the paradigm determines the research methodology.

The courses' dual emphasis on methodologies and paradigms allows doctoral students to understand how theoretical considerations determine the appropriate analytic tools that should be used in research in the area of curriculum and instruction. It is also important to understand differences among research traditions because informed educators need to get a sense of how the evidence from each tradition or data source is analyzed and how inferences are drawn (Walker, 1992).

For each research method/paradigm, we will examine the type of questions addressed, the methods used, substantive findings, and policy implications. We will typically examine and critique the substantive research in the area by: (a) reading studies from research journals, (b) completing paper-and-pencil research activities that focus on authentic or "real-life" research situations, and (c) reading and discussing issues that have important policy implications. Students will have the opportunity to work both independently and cooperatively on the research activities. There also will be ample opportunity for students to address specific questions they have about research in their own areas of expertise. Finally, we will examine the research and
policy implications of many current issues in the field of curriculum and instruction that arise during the academic year.

**Objectives of the EDCI Research Sequence (EDCI 686, EDCI 687, & EDCI 688)**

This three-course sequence is designed to introduce doctoral students in TLAC to all aspects of the research process. Students will be involved in formulating, critically reviewing, designing, and evaluating research studies. More specifically, this course is designed to provide TLAC doctoral students with a framework that will allow them to demonstrate the following competencies:

1. to understand the wide range of research methodologies in educational research.
2. to understand the strengths, weaknesses, and appropriate uses of those research methodologies.
3. to understand a range of substantive research problems and research paradigms in education.
4. to understand distinctions among research paradigms in education, including classes of research questions, methods of collecting and decisioning evidence, theoretical assumptions, strengths, weaknesses, and the work of major proponents.
5. to critically analyze educational research.
6. to understand basic principles of descriptive and inferential statistics and their application in context of various research paradigms.
7. to understand the basic principles of descriptive and multivariate analyses and their application in educational research.
8. to understand and appropriately use data analysis software, write-up the results in both table and narrative format, and interpret the results.
9. to understand the influence of research on educational policy.
10. to propose and design purposeful research studies in education.
11. to understand the importance of presenting and utilizing research findings in educational settings.

**Course Pedagogy:**

The course will be taught using the Five Standards of Effective Pedagogy (Tharp, 1997; Tharp, Estrada, Dalton, & Yamauchi, 2000). The five standards are: (a) Teacher and Students Producing Together, (b) Developing Language and Literacy Across the Curriculum, (c) Making Meaning: Connecting School to Student’s Lives, (d) Teaching Complex Thinking, and (e) Teaching Through Conversation.

The first standard, Teacher and Students Producing Together, indicates that the classroom environment will be collaborative. In other words, there will be many opportunities in class where students will work together (i.e., cooperatively) to produce specified products (i.e., assignments). Students also are encouraged to study together outside of class.

The second standard, Developing Language, indicates that the course will emphasize learning the language of educational research as well as the content. In other words, students will learn how to appropriately talk about and describe educational research (i.e., use the current vocabulary). We will often, for example, examine the new vocabulary for the week.

The third standard, Making Meaning, suggests that an important aspect of the course will be connecting what we learn about educational research to students’ personal interests and prior experiences. In other words, we will highlight the need to contextualize the knowledge we learn
about research to everyday issues and concerns. Students need to share their own research interests as well as share how research impacts their own personal experiences.

The fourth standard, teaching complex thinking, illustrates the point that the course will focus on developing students' higher-level thinking skills such as analyzing, synthesizing, and evaluating research situations. Exams, for example, will therefore typically include items where students will critically analyze research studies, and synthesize and evaluate research salient attributes of research methods. Other assignments and projects will similarly involve complex thinking processes (e.g., writing).

The fifth standard, Instructional Conversation, suggests that there will be more dialogue and discussion in class than lecture. I rarely lecture in class! I always expect students to be prepared to critically discuss the issues addressed in the assigned readings. Everyone's learning is enhanced through dialogue and it is strongly encouraged here.

**Course Requirements:**

The grading system used in EDCI 688 is based on the following criteria:

(a) Attendance, participation, in-class activities, homework, and unannounced quizzes 10 points
(b) Article Critique 10 points
(c) Summative Exam 60 points
(d) Research Paper & Presentation 120 points

Final grades for each course will be assigned according to the following criteria:

- 200 - 190 = A
- 189 - 180 = B
- 179 - 170 = C
- 169 - 160 = D
- 159 - 0 = F

**Article Critique:**

Students are expected to find a research article in their area of interest and conduct a written and oral critique of the article. The specific format and questions that the critique should address will be distributed in advance. The article needs to be approved in advance by the instructor. The article must be quantitative and should include some multivariate statistics (e.g., two- or three-way anova, multiple regression, factor analyses). Ideally, the article should be similar to the students’ area of interest and final paper.

**Examination:**

It is expected that all students will complete the summative examination by the assigned times. The summative examination focuses on conducting appropriate statistical and data analyses and writing up the results. Prior to submitting the exam, students may contact the instructor if they have concerns conducting the analyses or writing up the results.

Since this course is taught through a mastery-learning approach, students have the option of taking one equivalent-form exam (for 10% fewer points) if they wish to improve their exam score. If students do not "pass" the summative exam and the equivalent-form exam (i.e., make-up test), they may be asked to (a) drop the class, or (b) take an "incomplete" in the class and retake it at a later time.
Research Paper:

The major project in this course will consist of a completed research paper. Students will be expected to complete a 20-25 page, quantitative research paper following A.P.A. (6th ed.) format. In other words, students will be expected to (a) design a study, (b) review the appropriate literature, (c) "collect" the data, (d) analyze the data, (e) report the results, and (f) discuss the results. The enclosed APA format should serve as a useful guide for the paper. Students will be required to complete and turn in specific sections of the paper throughout the semester.

It is expected that these studies be of substantive quality so that they could serve as doctoral research papers (i.e., dissertation articles) as well as be published in peer-reviewed journals and/or presented at professional educational meetings such as AERA, SERA, NRC, or SITE. Students will be encouraged to either (a) collect primary data, (b) use national secondary data bases (e.g., NELS:88), or (c) work collaboratively with other faculty and/or students for their research projects. If these options are not appropriate for individual student projects, then simulated data sets will be provided to students in order to complete the research projects. Simulated data sets generally are not appropriate for dissertation articles.

Students are expected to complete their research papers and formally present them via Power-Point presentations to the class during the Research Symposium, which is scheduled at the end of the semester.

Textbooks/Readings:

It is expected that students will have all the assigned readings and homework (including Student Mastery Activities) completed before each class begins. In addition to the assigned readings from the textbooks, there will be several articles that will be assigned as required reading for the EDCI research courses. These articles typically will be distributed in class or available online class the week before they are due.

Students are expected to have access to a statistical software package to analyze multivariate data (e.g., SPSS, SAS). These are available for a nominal fee to students and they also are available at some of the university computer labs.

The required textbooks for EDCI 688 are:

Some recommended books for these courses are:


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Student Attendance:

Class will begin promptly at the scheduled time and end promptly at the scheduled time. Students are responsible for all material they miss when they are absent or late. I generally do not take off points or lower grades for students who are absent from class. There is ample evidence, however, that indicates that attendance in class is highly related to final grades in these courses. In other words, the more often you are absent, the more likely you will receive lower grades. If you know you are going to be absent for a class, try to make arrangements for a classmate to pick up materials for you. I also will try to provide the materials you've missed from class.

Success Strategies for the Course:

Several students have shared with me their strategies for successfully completing the EDCI research methods courses. In addition to some of the obvious tips such as reading the assigned materials, studying for exams, reading the syllabus, and completing the assignments, some of other strategies they mentioned include:

(a) Organizing all their course material in a binder or notebook. There are a large number of handouts (e.g., articles and exercises) that are passed out each week and organizing them
facilitates both studying for examinations and future use. A “1” or “1.5” three-ring notebook will probably be sufficient.

(b) Developing study groups--there is substantive research that indicates that working together in study groups improves student outcomes. Many students in the doctoral program have established study groups for the EDCI research methods courses and they found it quite helpful.

(c) Reading and answering study questions from the assigned textbook. I seldom directly teach from the textbook or mention the discussion questions at the end of each chapter. The textbook and questions, however, are excellent sources of knowledge!

(d) Maintaining an educational journal or "intellectual journal." The eminent sociologist, C. Wright Mills (1959) was one of the first social scientists who discussed the value of using an intellectual journal. He (and others like myself) argues that maintaining a journal and writing down ideas and notions that you encounter throughout the doctoral program will help you become an "educated" person. This journal or writing experience is important in several ways. First, writing helps us reflect on our experience and "brings intention to the experience" (Barth, 2001, p. 128). Second, journal writing helps us formulate those ideas that many students use for the doctoral dissertation or research articles. Very often, your journal entries become the ideas or frameworks for your dissertation. There’s a popular saying in research that “if you don’t write it down, it doesn’t exist.” Develop the habit or discipline of writing down all you important ideas about education and educational research.

(e) Contacting me if you have any problems or concerns. Please don’t hesitate to contact me if something comes up that you think I can help you with. You also may e-mail me or call me if you have any questions about the assignments or other issues.

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All students are expected to complete the on-line evaluations for the course.
https://pica.tamu.edu

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If you have a concern about any aspect of the course, I would appreciate it if you could let me know as soon as possible. If I cannot resolve the issue to your satisfaction, then you are expected to complete the TLAC Concern/Opportunity/Acknowledge (COAF) Form and submit it to the TLAC Department Head.
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<td>Overview of Course</td>
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<td>Theoretical, Analytic, &amp; Policy Issues in Ed. Rsch</td>
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<td>Scientific Writing--Overview</td>
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<td>Review of Inferential Statistics</td>
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<tr>
<td>Wk 11</td>
<td>Scientific Writing—Results</td>
<td>SUMMATIVE EXAM</td>
</tr>
<tr>
<td></td>
<td>Non-parametric statistics</td>
<td>Read Field #15 &amp; #16</td>
</tr>
<tr>
<td></td>
<td>Advanced Statistics/Discriminant Analysis</td>
<td></td>
</tr>
<tr>
<td>Wk 12</td>
<td>Scientific Writing—Discussion</td>
<td></td>
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<tr>
<td></td>
<td>Policy Implementation/Mixed Methods</td>
<td></td>
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<tr>
<td>Wk 13</td>
<td>Scientific Writing—Discussion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Design Experiments/Developmental Research</td>
<td></td>
</tr>
<tr>
<td>Wk 14</td>
<td>Presentation of Research Findings</td>
<td>Draft of Final Paper Due</td>
</tr>
<tr>
<td>Finals</td>
<td>Research Symposium/Presentations of Final Papers</td>
<td>Final Papers Due</td>
</tr>
</tbody>
</table>
References

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

Form Instructions

1. Request submitted by (Department or Program Name): Department of Health and Kinesiology

2. Course prefix, number and complete title of course: HLTH 644 Health Education Theory

3. Catalog course description (not to exceed 50 words): Theory in the practice of Health Education; selected theories and their structure, function, and value to health professionals.

4. Prerequisite(s): Graduate classification; accepted to E-Master's program in Health Education.
   Cross-listed with: 
   Stacked with: 
   Cross-listed courses require the signature of both department heads.

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

6. 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

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

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

9. Prefix | Course # | Title (excluding punctuation)
   HLTH | 644 | HEALTH EDUCATION THEORY

   Lect. | Lab | SCH | CIP and Fund Code | Admin Unit | Acad. Year | FLCE Code
   0 | 3 | 0 | 0 | 3 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 1 | 4 | 0 | 2 | 1 | 1 | 1 | 2 | 0 | 0 | 3 | 6 | 3 | 2

   Approval recommended by:
   Richard Kraus
   Department Head or Program Chair (Type Name & Sign) Date
   James B. Kraft
   Chair, College Review Committee Date
   Dean of College
   Date
   Chair, GI 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 – 3/10
SYLLABUS

E-Master of Health Education

Course title and number: HLTH 644 - Health Education Theory
Term: Spring, 2011
Number of Learning Modules: 15

Instructor Information:
Name: B. E. (Buzz) Pruitt
Telephone number: (979) 845-3503
Email address: buzz@hlkn.tamu.edu
*Make sure you include HLTH 644 in the subject to ensure a prompt response.
Office hours: Wednesdays 2:30-4:00
*You can expect a response to your emails during office hours.
You can also call anytime during office hours to ask any questions.
Office location: 113 Dulie Bell Building

Catalog Description of Course:
Theory in the practice of Health Education; selected theories and their structure, function, and value to health professionals.

Course Introduction:
This course is designed to acquaint you with the place of theory in the practice of health education. Emphasis will be given to increasing your understanding of selected theories, their structure, function, and value to health education and health promotion professionals.

Prerequisites:
Graduate Classification and must be accepted to the E-Masters program in Health Education.

Learning Goals or Course Goals:
At the end of the course of study, you will:
- Understand the relationship among theory, research, and practice.
- Appreciate the place of theory in the practice of the health education specialists;
- Become familiar with the theoretical foundation of health education as it relates to behavior development and behavior change;
- Identify established theories of the field of health education; and
- Describe the use of theory when conducting the process of planning, implementing, and evaluating health education.
Course Textbook and/or Resource Materials:
- All video lectures, notes, and additional readings will be available on the course website.

Course Website:
This section of HLTH 644 is the on-line version of the course and is designed for students to work independently to master course content and skills. The lectures, notes, and materials for this course are provided on the course website: http://courses.cehd.tamu.edu (please book mark this site). To access the course content please follow these steps:

1. Go to http://courses.cehd.tamu.edu
2. Click “Login for Texas A&M Faculty, Staff, and Students”
3. When prompted, enter your NetID and password
4. Then click on the link for “HLTH 644 - Health Education Theory”
5. Once logged into the course you will use the links located in the course menu on left side of the homepage to navigate through the course content.

Required Software:
- Internet Browser such as Explorer or Firefox
- Flash Plug-in
- Window Media Player
- NEO Email Account (Note: All course emails will be sent to your NEO account)
- Adobe Reader

**A link is provided on the course website in the “Course Menu” under “Required Materials.”

Technical Support:
If you are experiencing any technical problems with the website or the course lectures please contact Amber Muenzenberger at atm@hilkn.tamu.edu. In your email make sure you include which course you are having problems with and a short description of the problem. Amber will get with you within 24 hours to assist with the problem. This is the quickest way to receive technical assistance regarding issues with the website or software required for the course.

Attendance Policy:
“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.”

Grading Policies:
For the Health Education Theory course, five evaluation measures will be used to assign letter grades; completion of the quizzes, midterm, and final, as well as the quality of the forum posts, and upload assignments. Course grades will be based on a total of 450 points (please see the grading scale below). There will be 35 points for quizzes, 75 points for the midterm exam, 75 points for the final exam, 20 points for Forum Posts, and 245 points for upload assignments. All assignments are posted
on the course website and must be submitted on the course website no later than 5:00pm on the due date. No assignments that are emailed to the instructor will be accepted. Completion of all assignments is up to you. Please make a note of all due dates and times with the course outline located below. No late assignments will be accepted unless a university excuse has been submitted and approved by the instructor – see attendance policy above. Note: All course assignments are to be completed individually and security precautions have been taken on the course website to uphold the “Aggie Code of Honor.

😊 Indicates that the assignment should be uploaded into your Electronic Portfolio.

**Quizzes, Midterm and Final Exam:** These assignments are designed to help assess your mastery of chapter materials including the lectures, readings, and notes posted on the course website. Once you have clicked on the link for the quiz, you will see a brief message about the material that will be covered on the quiz. To begin the quiz, click on “Attempt quiz now”. When the quiz appears you will click on the correct answer choice. When you are ready to submit your quiz, you must click “Save all and finish”. If you click on the “save without submitting” button the timer will continue to count down and at the end of 15 minutes your quiz will automatically be submitted even if you log off the course website. When you complete the quiz, you will see your quiz score.

- For the **Quizzes** you will be given 2 attempts with 15 minutes to answer 10 questions. To obtain the full amount of time on a quiz, make sure you do not start later than 4:45pm on the due date. You will be able to see your score after completing the quiz, but the questions and answers will not be released until the quiz closes. If you attempt the quiz more than once, your grades for the quizzes will be averaged. Then you may review your quiz to prepare for the midterm and the final exam. To review your quiz, you will need to click on the quiz. Then you will click on the grade or marks, as this number will be a link. The next page that appears will show your quiz questions, answers, and any feedback from the graduate assistant. The quizzes are:
  - Learning Module 4.1 Quiz (5 points) due Wednesday 1/26/11 by 5pm CST
  - Learning Module 4.3 Quiz (5 points) due Monday 2/7/11 by 5pm CST
  - Learning Module 4.4 Quiz (5 points) due Wednesday 2/9/11 by 5pm CST
  - Learning Module 4.5 Quiz (5 points) due Monday 2/14/11 by 5pm
  - Learning Module 4.6 Quiz (5 points) due Wednesday 2/16/11 by 5pm CST
  - Learning Module 4.7 Quiz (5 points) due Monday 2/21/11 by 5pm CST
  - Learning Module 4.9 Quiz (5 points) due Wednesday 3/23/11 by 5pm CST

- For the **Midterm and Final Examinations** you will be given 1 attempt with 60 minutes worth 75 points. To obtain the full amount of time on a quiz, make sure you do not start later than 4pm on the due date. For exams you will not be able to see the questions and answers you missed. If you are curious about which topic you did not do well on, you will need to contact the instructor of the course. The exams are:
  - Midterm Examination (75 points) will open on Thursday 3/3/11 at 8:00 am CST and will close on Friday 3/4/11 at 5:00 pm CST.
Final Examination (75 points) will open on Monday 5/2/11 at 8:00 am CST and will close on Tuesday 5/3/11 at 5:00 pm CST.

**Forum Posts:** These assignments are designed for students to express their opinions about health education. All forums will require one original response to the questions asked and at least one response to another student’s post (specific directions for each forum can be found on the course website). When making your original post: click “add a new discussion topic” then enter your subject and message and click “post to forum”. You will have 30 minutes after your original post to edit your thoughts. To reply to a posting, click on the discussion title then when you get to a posting you would like to comment on click reply and repeat the steps mentioned above. The forum assignments are:
- Theoretical Thinking Forum (10 points) due Wednesday 2/2/11 5pm CST
- Ecological Perspective Discussion (10 points) due Wednesday 2/23/11 by 5pm CST

**Uploads:** These assignments are designed to assess your knowledge and application skills associated with health education (specific directions for each upload can be found on the course website). To upload an assignment, click on the “Browse...” button then find the document on your computer and click the “Open” button. Lastly, you will need to click on the “Upload this file” button. When a document is successfully uploaded the file name will appear under the “Submission” section of the assignment page.
- Description of a Selected Theory (55 points) due Monday 2/28/11 by 5pm CST
- Theory to Practice Critique: Setting Specific (10 points) due Wednesday 3/30/11 by 5pm CST
- Theory to Practice Critique: Research (10 points) due Wednesday 4/6/11 by 5pm CST
- Theory to Practice Critique: Planning (10 points) due Wednesday 4/13/11 by 5pm CST
- Theory to Practice Critique: Evaluation (10 points) due Wednesday 4/20/11 by 5pm CST
- Theoretical Foundation Paper (150 points) due Wednesday 4/27/11 by 5pm CST

**Contribution to the Electronic Portfolio**
In learning module 4.15, you will construct a theoretical foundation paper. This written paper will be submitted to the Electronic Portfolio.

**Points Grading Scale:**
Grades in HLTH 644 will be determined according to the following course point structure:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>35</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>75</td>
</tr>
<tr>
<td>Final Exam</td>
<td>75</td>
</tr>
<tr>
<td>Forums</td>
<td>20</td>
</tr>
<tr>
<td>Uploads/Activities</td>
<td>245</td>
</tr>
<tr>
<td><strong>Total Points</strong></td>
<td><strong>450</strong></td>
</tr>
</tbody>
</table>

Letter grades will be assigned according to the following course point structure:
- A = 405-450 points
- B = 360-404 points
- C = 315-359 points
- D = 270-314 points
- F = <269 points
<table>
<thead>
<tr>
<th>Learning Module:</th>
<th>Topics</th>
<th>Lecture(s)</th>
<th>Reading(s)</th>
<th>Assignment(s)</th>
</tr>
</thead>
</table>
- LM 4.1 Quiz (Wed. 1/26/11 by 5pm) |
- Theory at a Glance | Forum Post:  
- Theoretical Thinking (Wed. 2/2/11 by 5pm) |
- LM 4.3 Quiz (Mon. 2/7/11 by 5pm) |
- LM 4.4 Quiz (Wed. 2/9/11 by 5pm) |
<table>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upload:</td>
<td>• Description of Selected Theory (Mon 2/28/11 by 5pm)</td>
<td></td>
</tr>
<tr>
<td>Midterm Examination (LM 4.1 – 4.8) will open on Thurs., 3/3/11 at 8am And will close on Fri., 3/4/11 at 5pm.</td>
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</tr>
<tr>
<td>LM 4.9</td>
<td>Putting Theory into Practice</td>
<td>Putting Theory into Practice by Dr. Pruitt</td>
<td>None</td>
<td>Quiz:</td>
<td>• LM 4.9 Quiz (Wed. 3/23/11 by 5pm)</td>
<td></td>
</tr>
<tr>
<td>LM 4.11</td>
<td>Application of Theory to Research: Part 1</td>
<td>Application in Research by Dr. Pruitt</td>
<td>• Goodson, P. (2010). Theory in Health Promotion Research and Practice. Sudbury, MA: Jones and Bartlett Publishers, Chapter 8</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LM 4.12</td>
<td>Application of Theory to Research: Part 2</td>
<td>None</td>
<td>None</td>
<td>Upload: • Theory to Practice: Research (Wed. 4/6/11 by 5pm)</td>
<td></td>
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</tr>
</tbody>
</table>

Final Examination (4.9 – 4.15) will open on Mon. 5/2/11 at 8am and will close on Tues. 5/3/11 at 5pm.

**Academic Honesty:**

The Aggie Honor Code states: **"An Aggie does not lie, cheat, or steal, or tolerate those who do."**

Upon accepting admission to Texas A&M University, individuals immediately assume a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Ignorance of the rules does not exclude any member of the Texas A&M
University community from the requirements or the processes of the Honor system. Please think about what this honor code means, and let it shape and guide your behavior. For additional information please visit: http://www.tamu.edu/aggiehonor/

**Academic Dishonesty Procedures:**
Should you be suspected of academic dishonesty, the course instructor will have the option to send the matter to the Honor Council or can adjudicate the case through the department. You will be notified via e-mail of the intent to submit the case to the Honor Council or of the appropriate steps to take to adjudicate the matter through the department. Texas A&M University is required by law to discuss these matters only with the student. The instructors, staff, and graduate assistants of the Office of Health Informatics cannot and will not discuss any academic issues with anyone other than the student including parents and/or guardians.

**Student Services for Students with Disabilities:**
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, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu.

If you are a student that has registered with Disability Services, please make sure we get the required paperwork so that we make proper accommodations for any course assignments.

**Student Rules:**
Each student has the responsibility to be fully acquainted with and to comply with the Texas A&M University Student Rules. More specific rules, information and procedures may be found in various publications pertaining to each particular service or department. For more information about the rules, please visit, http://student-rules.tamu.edu/.

**Copyrighted Materials:**
Most of the handouts and lecture materials used in this course are copyrighted (including but not limited to syllabus, exams, notes and any web-based materials). These are legally protected documents. Do not reproduce these materials for any use other than those related to this course.

**Disclaimer:**
Should you have any problems or comments that you would like to share about the online courses, please contact Ms. Amber T. Muenzenberger, the Director for the Office of Health Informatics, by email at atm@hlkn.tamu.edu or by phone at 979-458-2672.

**Caveat:**
The schedule and procedures in this course are subject to change in the event of extenuating circumstances.
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
- Submit original form and attach a course syllabus.

Form Instructions

1. Request submitted by (Department or Program Name): Department of Health and Kinesiology

2. Course prefix, number and complete title of course: HLT 646 Health Education Training

3. Catalog course description (not to exceed 50 words): Designing, implementing, and evaluating workforce training for professional health educators, emphasis on evidence-based workforce training.

4. Prerequisite(s): Graduate classification; accepted to E-Master's program in Health Education.

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

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

6. 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

7. This course will be:
   a. required for students enrolled in the following degree programs(s) (e.g., B.A. in history) E-Masters in Health Education
   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)

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

9. Prefix: HLT Course # 646 Title (excluding punctuation) Training

<table>
<thead>
<tr>
<th>Lect.</th>
<th>Lab</th>
<th>SCH</th>
<th>CRIP and Fund Code</th>
<th>Admin. Unit</th>
<th>Acad. Year</th>
<th>FICE Code</th>
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<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Approval recommended by:

Richard Kreider
Department Head or Program Chair (Type Name & Sign) Date

Emerson Breedlove
Chair, College of Kinesiology Date

J.D. Brown
Dean of College Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu
Curricular Services – 3/10
SYLLABUS
E-Master of Health Education

Course title and number: Health Education Training, HLTH 646
Term: Summer, 2011
Number of Learning Modules: 15

Instructor Information:
Name: B. E. (Buzz) Pruitt
Telephone number: (979) 845-3503
Email address: buzz@hlkn.tamu.edu
*Make sure you include HLTH 646 in the subject to ensure a prompt response.
Office hours: Wednesdays 2:30-4:00
**You can expect a response to your emails during office hours.
Office location: You can also call anytime during office hours to ask any questions.
113 Dulie Bell Building

Catalog Description of Course:
Designing, implementing, and evaluating workforce training programs for professional health educators; emphasis on evidence-based workforce training.

Course Description:
This course prepares students to design and implement workforce training for practicing health educators. Emphasis will be given to designing evidence-based workforce training programs in both face-to-face and virtual formats. Evaluation of workforce training will be considered.

Prerequisites:
Graduate classification and must be accepted in the E-Masters program in Health Education.

Learning Goals or Course Goals:
At the end of the course of study, you will:
- Understand the importance and place of workforce training for practicing health educators;
- Recognize evidence-based workforce training programs;
- Become familiar with adult learning theory and it’s place in planning workforce training programs;
- Plan effective in-service training programs using both face-to-face and virtual formats; and
- Describe the value of workforce training to the health education profession.

Course Textbook and/or Resource Materials:
• Required Texts:
• All video lectures, notes, and additional readings will be available on the course website.

Course Website:
This section of HLTH 646 is the on-line version of the course and is designed for students to work independently to master course content and skills. The lectures, notes, and materials for this course are provided on the course website: [http://courses.cehd.tamu.edu](http://courses.cehd.tamu.edu) (please book mark this site). To access the course content please follow these steps:

1. Go to [http://courses.cehd.tamu.edu](http://courses.cehd.tamu.edu)
2. Click “Login for Texas A&M Faculty, Staff, and Students”
3. When prompted, enter your NetID and password
4. Then click on the link for “HLTH 646 – Health Education Training”
5. Once logged into the course you will use the links located in the course menu on left side of the homepage to navigate through the course content.

Required Software:
• Internet Browser such as Explorer or Firefox
• Flash Plug-in
• Window Media Player
• NEO Email Account (Note: All course emails will be sent to your NEO account)
• Adobe Reader

**A link is provided on the course website in the “Course Menu” under “Required Materials.”

Technical Support:
If you are experiencing any technical problems with the website or the course lectures please contact Amber Muenzenberger at atm@hkn.tamu.edu. In your email make sure you include which course you are having problems with and a short description of the problem. Amber will get with you within 24 hours to assist with the problem. This is the quickest way to receive technical assistance regarding issues with the website or software required for the course.

Grading Policies:
For the *Health Education Training* course contains evaluation measures which consists of quizzes (25 points), final exam (80 points), forums (20 points), uploads (280 points). All assignments are posted on the course website and must be submitted on the course website no later than 5:00pm on the due date. No assignments that are emailed to the instructor will be accepted. Completion of all assignments is up to you. Please make a note of all due dates and times with the course outline located below. No late assignments will be accepted unless a university excuse has been submitted and approved by the instructor. 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). All course assignments are to be completed individually and security precautions have been taken on the course website to uphold the “Aggie Code of Honor.”
Indicates that the assignment should be uploaded into your Electronic Portfolio

**Quizzes:** These assignments are designed to help assess your mastery of chapter materials including the lectures, readings, and notes posted on the course website. Once you have clicked on the link for the quiz, you will see a brief message about the material that will be covered on the quiz. To begin the quiz, click on “Attempt quiz now”. When the quiz appears you will click on the correct answer choice. When you are ready to submit your quiz, you must click “Save all and finish”. If you click on the “save without submitting” button the timer will continue to count down and at the end of 30 minutes your quiz will automatically be submitted even if you log off the course website. When you complete the quiz, you will see your quiz score.

- For the **Quizzes** you will be given 2 attempts with 30 minutes each to answer the quiz questions. To obtain the full amount of time on a quiz, make sure you do not start later than 4:30 pm on the due date. You will be able to see your score after completing the quiz, but the questions and answers will not be released until the quiz closes. If you attempt the quiz more than once, your grades for the quizzes will be averaged. To review your quiz, you will need to click on the quiz. Then you will click on the grade or marks, as this number will be a link. The next page that appears will show your quiz questions, answers, and any feedback from the instructor. The quizzes are:
  - Learning Module 7.3 Quiz (5 points) due Monday 6/13/11 by 5pm CST
  - Learning Module 7.5 Quiz (5 points) due Wednesday 6/22/11 by 5pm CST
  - Learning Module 7.7 Quiz (5 points) due Wednesday 7/6/11 by 5pm CST
  - Learning Module 7.9 Quiz (5 points) due Monday 7/11/11 by 5pm CST
  - Learning Module 7.11 Quiz (5 points) due Monday 8/1/11 by 5pm CST

- For the **Final Examination** you will be given 1 attempt with 60 minutes for 80 questions. To obtain the full amount of time on a quiz, make sure you do not start later than 4pm on the due date. For exams you will not be able to see the questions and answers you missed. If you are curious about which topic you did not do well on, you will need to contact the instructor of the course. The exams are:
  - Final Examination (80 points) will open on Tuesday 8/2/11 at 8:00 am CST and will close on Wednesday 8/3/11 at 5:00 pm CST.

**Forum Posts:** These assignments are designed for students to express their opinions about health education. All forums will require one original response to the questions asked and at least one response to another student’s post (specific directions for each forum can be found on the course website). When making your original post: click “add a new discussion topic” then enter your subject and message and click “post to forum”. You will have 30 minutes after your original post to edit your thoughts. To reply to a posting, click on the discussion title then when you get to a posting you would like to comment on click reply and repeat the steps mentioned above. The forum assignments are:

- Differentiating Training, Instruction, and Teaching Forum Discussion (10 points):
  - Part 1 due Monday 6/6/11 by 5pm CST
  - Part 2 due Wednesday 6/8/11 by 5pm CST
Uploading: These assignments are designed to assess your knowledge and application skills associated with health education (specific directions for each upload can be found on the course website). To upload an assignment, click on the "Browse..." button then find the document on your computer and click the "Open" button. Lastly, you will need to click on the "Upload this file" button. When a document is successfully uploaded the file name will appear under the "Submission" section of the assignment page.

- ADDIE (10 points) due Wednesday 6/15/11 by 5pm CST
- Five-Step Model (10 points) due Monday 6/20/11 by 5pm CST
- Pruitt’s Pyramid (10 points) due Wednesday 7/6/11 by 5pm CST
- Face-to-Face Lesson (50 points) due Monday 7/11/11 by 5pm CST
- Virtual Upload (50 points) due Monday 7/18/11 by 5pm CST
- Complete Training Program (150 points) due Monday 8/1/11 by 5pm CST 😊

Contribution to the Electronic Portfolio
In LM 7.14 you will construct a Training Program which will be submitted to the Electronic Portfolio.

Points Grading Scale:
Grades in HLTH 689 will be determined according to the following course point structure:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>25</td>
</tr>
<tr>
<td>Final Exam</td>
<td>80</td>
</tr>
<tr>
<td>Forums</td>
<td>20</td>
</tr>
<tr>
<td>Uploads/Activities</td>
<td>280</td>
</tr>
<tr>
<td>Total Points</td>
<td>405</td>
</tr>
</tbody>
</table>

Letter grades will be assigned according to the following course point structure:
- A = 364 - 405 points
- B = 324 - 363 points
- C = 283 - 323 points
- D = 243 - 282 points
- F = <242 points

Course Outline:

<table>
<thead>
<tr>
<th>Learning</th>
<th>Topic</th>
<th>Lecture(s)</th>
<th>Required</th>
<th>Assignments</th>
</tr>
</thead>
</table>

Page 4
<table>
<thead>
<tr>
<th>Module</th>
<th>Reading(s)</th>
<th>DUE</th>
</tr>
</thead>
</table>
| **7.3** | None | Quiz:  
- LM 7.3 Quiz (Mon 6/13/11 by 5pm CST) |
| **7.4** | Lecture 3 By Dr. Pruitt | Upload:  
- ADDIE (Wed 6/15/11 by 5pm CST)  
- Five-Step Model (Mon 6/20/11 by 5pm CST) |
| **7.5** | None | Quiz:  
- LM 7.5 Quiz (Wed 6/22/11 by 5pm CST) |
| **7.6** | None | Forum  
- Writing Measureable Objectives Discussion:  
  - Part 1 (Mon 6/27/11 by 5pm CST)  
  - Part 2 (Wed 6/29/11 by 5pm CST) |
| **7.7** | Lecture 4 By Dr. Pruitt | Quiz:  
- LM 7.7 Quiz (Wed 7/6/11 by 5pm CST)  
- Pruitt's Pyramid (Wed 7/6/11 by 5pm CST) |
| **7.8** | None | None |
• Clark, R.C. (2010). Evidence-Based Training Methods. Chapter 12, 13. | Quiz:  
• LM 7.9 Quiz (Mon 7/11/11 by 5pm CST)  
Upload:  
• Face-to-Face Lesson (Mon 7/11/11 by 5pm CST) |
| 7.10 | Developing a Lesson: Virtual | None | None | Upload:  
• Virtual Lesson (Mon 7/18/11 by 5pm CST) |
• Clark, R.C. (2010). Evidence-Based Training Methods. Chapter 9. | Quiz:  
• LM 7.11 Quiz (Wed 7/20/11 by 5pm CST) |
| 7.12-14 | Preparing the Final Course Plan | None | None | Upload:  
• Complete Training Plan (Mon 8/1/11 by 5pm CST) |

**Final Examination**  
The exam will open at Tuesday, August 2nd at 8am CST and will close on Wednesday, August 3rd at 5pm CST.

**Academic Honesty:**  
The Aggie Honor Code states:  
"An Aggie does not lie, cheat, or steal, or tolerate those who do."

Upon accepting admission to Texas A&M University, individuals immediately assume a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Ignorance of the rules does not exclude any member of the Texas A&M University community from the requirements or the processes of the Honor system. Please think about what this honor code means, and let it shape and guide your behavior. For additional information please visit:  
http://www.tamu.edu/aggiehonor/

**Academic Dishonesty Procedures:**  
Should you be suspected of academic dishonesty, the course instructor will have the option to send the matter to the Honor Council or can adjudicate the case through the department. You will be notified
via e-mail of the intent to submit the case to the Honor Council or of the appropriate steps to take to adjudicate the matter through the department. Texas A&M University is required by law to discuss these matters only with the student. The instructors, staff, and graduate assistants of the Office of Health Informatics cannot and will not discuss any academic issues with anyone other than the student including parents and/or guardians.

Student Services for Students with Disabilities:
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, contact the Department of Student Life, Services for Students with Disabilities, in Room 118 in the Cain Building or call 979-845-1637. For additional information visit http://disability.tamu.edu.

If you are a student that has registered with Disability Services, please make sure we get the required paperwork so that we make proper accommodations for any course assignments.

Student Rules:
Each student has the responsibility to be fully acquainted with and to comply with the Texas A&M University Student Rules. More specific rules, information and procedures may be found in various publications pertaining to each particular service or department. For more information about the rules, please visit, http://student-rules.tamu.edu/.

Copyrighted Materials:
Most of the handouts and lecture materials used in this course are copyrighted (including but not limited to syllabus, exams, notes and any web-based materials). These are legally protected documents. Do not reproduce these materials for any use other than those related to this course.

Disclaimer:
Should you have any problems or comments that you would like to share about the online courses, please contact Ms. Amber T. Muenzenberger, the Director for the Office of Health Informatics, by email at atm@hlkn.tamu.edu or by phone at 979-458-2672.

Caveat:
The schedule and procedures in this course are subject to change in the event of extenuating circumstances.
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
Submit original form and attach a course syllabus.

Form Instructions:

1. Request submitted by (Department or Program Name): Department of Marine Biology

2. Course prefix, number and complete title of course: MARB 668 Marine Evolutionary Biology

3. Catalog course description (not to exceed 50 words): Lecture, readings, and discussions on advanced evolutionary topics including: history of evolutionary thought, organic evolution, evolutionary methods, and modern applications to organismal evolutionary questions. Students will lead and participate in journal club style discussion of selected recent literature.

4. Prerequisite(s): Graduate standing

Cross-listed with: N/A Stacked with: N/A

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

5. Is this a variable credit course? ☐ Yes ☒ No

If yes, from _________ to _________

6. 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

7. 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)

any master's or doctoral program

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

9. Prefix Course # Title (excluding punctuation)

<table>
<thead>
<tr>
<th>Lect.</th>
<th>Lab</th>
<th>SCH</th>
<th>CIP and Fund Code</th>
<th>Admin. Unit</th>
<th>Acad. Year</th>
<th>HGC Code</th>
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<tbody>
<tr>
<td>0</td>
<td>3</td>
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<td>2 6 1 3</td>
<td>0 0 0</td>
<td>2 1 8 0 5 1 1 - 1 2 0 1 0 2 9 8</td>
</tr>
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</table>

Approval recommended by:

John Schwarz
Department Head or Program Chair (Type Name & Sign) Date

Chair, College Review Committee Date

Dean of College Date

Chair, GC or UCC Date

Submit 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 – 3/10
MARB 668: Marine Evolutionary Biology (3 CR)

Course Overview:
Lecture, readings, and discussions on advanced evolutionary topics including: history of evolutionary thought, organic evolution, evolutionary methods, and modern applications to organismal evolutionary questions. Students will lead and participate in journal club style discussion of selected recent literature.

Prerequisites:
Graduate standing or permission from instructor

Faculty Instructors:
Dr. Anja Schulze (schulzea@tamug.edu)
Dr. Bernd Würsig (wursigb@tamug.edu)
Dr. Jaime Alvarado (alvaradi@tamug.edu)
Dr. Antonietta Quigg (quigga@tamug.edu)
Dr. Christopher Marshall (marshalc@tamug.edu)

Location: TBD
Meeting Times: TBD
Required Material: None; all readings will come from primary literature

Evaluation:
Grades will be based on 5 tests (one from each faculty member), an 8-10 page literature review on any of the topics covered in class, and journal club participation.

Exams: 50% (10% per test)
Literature Review: 25%
Journal Club: 25%

A = ≥90%; B = 80-89%; C = 70-79%; D = 60-69%; F = <60%

Course Topics and Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/29</td>
<td>Planning meeting, journal club sign-up</td>
<td>All</td>
</tr>
<tr>
<td>9/5</td>
<td>History: Lamarck, Darwin, Wallace et al.; evolutionary synthesis;</td>
<td>CDM</td>
</tr>
<tr>
<td></td>
<td>general concepts</td>
<td></td>
</tr>
<tr>
<td>9/12</td>
<td>Species concepts: species definitions, allopatric speciation,</td>
<td>JAB</td>
</tr>
<tr>
<td></td>
<td>hybridization; Paleontology I: Marine paleontology; extinctions</td>
<td></td>
</tr>
<tr>
<td>9/19</td>
<td>Paleontology II: Marine Mammals; example of macroevolution;</td>
<td>BW (PrP):</td>
</tr>
<tr>
<td></td>
<td>Population genetics I: Hardy-Weinberg, gene flow, genetic drift</td>
<td>JAB</td>
</tr>
<tr>
<td>9/26</td>
<td>Population genetics II and III: Methods and approaches</td>
<td>JAB</td>
</tr>
<tr>
<td>10/3</td>
<td>Population genetics IV: journal club</td>
<td>JAB</td>
</tr>
<tr>
<td>10/10</td>
<td>Phylogenetics I: Phylogenetic trees, monophyly, paraphyly etc.,</td>
<td>AS</td>
</tr>
<tr>
<td></td>
<td>sister group, homology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Phylogenetics II: types of data, molecular clocks, approaches</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Phylogenetics III: methods and approaches</td>
<td>AS</td>
</tr>
<tr>
<td>10/17</td>
<td>Evolution &amp; Development I: Ontogeny and phylogeny, evolution of life</td>
<td>AS</td>
</tr>
<tr>
<td></td>
<td>histories, heterochrony</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evolution &amp; Development II: genetics and development, e.g. hox</td>
<td></td>
</tr>
</tbody>
</table>
genes

<table>
<thead>
<tr>
<th>Date</th>
<th>Title</th>
<th>Instructor</th>
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<tr>
<td>10/24</td>
<td>Form and function I: morphological and physiological adaptations</td>
<td>CDM</td>
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<tr>
<td></td>
<td>Form and function II: optimal design and constraints, allometry,</td>
<td></td>
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<tr>
<td></td>
<td>isometry, body size</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Form and function III: modern morphological evolution methods</td>
<td></td>
</tr>
<tr>
<td>10/31</td>
<td>Form and function IV: journal club</td>
<td>CDM</td>
</tr>
<tr>
<td>11/7</td>
<td>Evolution in plants I: paleobotany</td>
<td>AQ</td>
</tr>
<tr>
<td></td>
<td>Evolution in plants II</td>
<td></td>
</tr>
<tr>
<td>11/14</td>
<td>Evolution in plants III Co-evolution</td>
<td>AQ</td>
</tr>
<tr>
<td>11/21</td>
<td>Thanksgiving Week (yay)</td>
<td></td>
</tr>
<tr>
<td>11/28</td>
<td>Evolution of behavior I: mating systems, sexual selection,</td>
<td>BW</td>
</tr>
<tr>
<td></td>
<td>inbreeding</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evolution of behavior II: optimal foraging theory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evolution of behavior III: co-operative behaviors, altruism</td>
<td></td>
</tr>
<tr>
<td>12/5</td>
<td>Evolution of behavior IV: journal club</td>
<td>BW ***</td>
</tr>
</tbody>
</table>

Course Policies

*The Aggie Code of Honor & Academic Dishonesty:*

For many years Aggies have followed a Code of Honor, which is stated in this very simple verse:

"Aggies do not lie, cheat, or steal, nor do they 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. This code also applies in the classroom. For most, living under this code will be no problem, as it asks nothing of a person that is beyond reason. The Aggies code of honor and the scholastic dishonesty section in the TAMUG University Rules will be the standard upon which scholastic integrity is maintained.

*Student Rights, Responsibilities, and Regulations:*

Students should be familiar with the University Rules, which are available from the Office of Student Affairs. This handbook contains valuable information concerning attendance, academic dishonesty, appeals processes, incomplete grades, sexual harassment, and other topics that are important to you.

*American Disabilities Act:*

The American 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 the Director of Counseling and each of your course instructors.

*Family Educational and Rights to Privacy Act (FERPA):*

FERPA is a federal law designed to protect the privacy of educational records, to establish the right of students to inspect and review their educational records and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings. To obtain a listing of directory information or to place a hold or any or all of this information, please consult the Admissions & Records Office. Items that can never be identified as public information are a student’s social security number of institutional identification number, citizenship, gender, grades, GPR, or class schedule. All efforts will be made in this class to protect your confidentiality.
Texas A&M University
Departmental Request for a New Course
Undergraduate  Graduate  Professional
Submit original form and attach a course syllabus.

Form Instructions

1. Request submitted by (Department or Program Name): Mathematics

2. Course prefix, number and complete title of course: Math 620 Algebraic Geometry I

3. Catalog course description (not to exceed 50 words): Affine and projective varieties; sheaves; cohomology; Riemann-Roch Theorem for curves.

4. Prerequisite(s): Math 653 or approval of instructor

Cross-listed with: 
Stacked with: 

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

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

6. 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

7. 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)

MS/PhD in Mathematics, Physics and Computer Science

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

9. Prefix  Course #  Title (excluding punctuation)
    MATH 620 ALGEBRAIC GEOMETRY I

Lect  Lab  NC  CIP and Fund Code  Admin. Unit  Acad. Year  FICE Code
0  0  0  0  2  7  0  1  0  2  0  0  0  1  8  7  5  12 - 13  0  3  6  3  2

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

Chair, College Curriculum Committee
Dean of College
Chair, GC of UCC

Submitted to Coordinating Board by:
Associate Director, Curricular Services

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
Curricular Services – 3/10
Algebraic Geometry I
Spring 2012
Course Information

Catalog Title and Description: Algebraic Geometry I: Affine and projective varieties, sheaves, cohomology, leading to the Riemann–Roch Theorem for curves. Prerequisites: Math 653 or approval of the instructor.

Learning Outcomes:
Students will master fundamental notions and techniques in Algebraic Geometry, preparing them for more advanced material and research. Mathematics students interested in Algebra, Geometry or Number Theory will benefit greatly from this course. Students in Physics interested in String Theory will also find this material very useful.

Required Text:
This text is available online at the Springerlink Books database, which is free for TAMU students.

Instructor Information
Instructor: Frank Sottile.

Course Grade: For this advanced graduate course, grades will be based entirely on weekly homework assignments. The usual cutoffs apply, namely 90% or more guarantees an A, more than 80% guarantees a B, more than 70% guarantees a C, and more than 60% guarantees a D. Attendance to all lectures is required. Make-up work or deadline extensions will be given only in the case of absences authorized under Student Rules: Attendance.

Course Topics

Weeks 1 and 2. Affine algebraic sets. Ideal of an affine algebraic set; Irreducibility; Hilbert's Nullstellensatz.


Weeks 4 and 5. Sheaves and varieties. The structural sheaf of an affine algebraic set; Algebraic varieties; Local rings; Sheaves of modules on affine and projective varieties.

Weeks 6 and 7. Dimension. The topological definition and the link with algebra; Dimension and counting equations; Morphisms and dimension.

Week 8. Tangent spaces and singular points. Singular points; Regular local rings; Curves.

Week 9. Bézout's Theorem in the plane. Intersection multiplicities; Bézout's theorem.
Weeks 10, 11 and 12. Sheaf cohomology. Homological algebra; Čech cohomology; Cohomology of O(d).


Other
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 the Department of Student Life, Services for Students with Disabilities, in Room B118 of the Cain Hall or call 845-1637.

Copyright: All printed handouts and web-materials for this course are protected by US Copyright Laws. No multiple copies can be made without written permission by the instructor.

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

**Form Instructions**

1. Request submitted by (Department or Program Name): Mechanical Engineering Program

2. Course prefix, number and complete title of course: MEEN 616 Surface Science

3. Catalog course description (not to exceed 50 words): Properties of surfaces, principles of classic and contemporary surface characterization techniques, recent development and roles of surface science in advanced technology.

4. Prerequisite(s): Graduate classification
   Cross-listed with: MEEN 616
   Stacked with:
   Cross-listed courses require the signature of both department heads.

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

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

7. 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)

   M.S., M.E., Ph.D. MSE, MEEN, AERO, ECEN, PHYS, CHEN, CHEN

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

9. Prefix | Course # | Title (excluding punctuation)
          | MS : 616 | Surface Science
          | Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | Acad. Year | HC Code | Level | Date |
|--------|--------|------------|
| 02     | 02     | 03         | 1   | 4   | 18          | 01          | 00       | 06     | 05    | 90  |

Approval recommended by:

- Ibrahim Kakarman, Ph.D.

Department Head or Program Chair (Type Name & Sign) Date 02/01/11

- Sai Lau, Ph.D.

Department Head or Program Chair (Type Name & Sign) Date 02/21/11

Submitted to Coordinating Board by:

- Associate Director, Curricular Services

Chair, College Review Committee Date

Dean of College Date

Chair, UC 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 – 3/10
## MEEN/MSEN 616 Surface Science

**Instructor:** Hong (Helen) Liang, Ph.D.  
**E-mail:** hliang@tamu.edu  
**Phone:** 979-862-2623  
**Office:** 323 ENPO

**Office hours:** Mondays and Wednesdays 1:30 p.m. – 3:00 p.m., or by appointment.  
**Class times:** TBD  
**Class room:** TBD

**Teaching Assistant:** TBA  
**E-mail:** Office hours::  
**Office:**

**Course Web pages:** WebCT-Vista  
**Prerequisite:** Graduate classification

### Texts and References

### References

### Course Credit

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Lab</td>
<td>5%</td>
</tr>
<tr>
<td>Project</td>
<td>40%</td>
</tr>
<tr>
<td>Homework</td>
<td>5%</td>
</tr>
<tr>
<td>Exams</td>
<td>50% (midterm 20%, final 30%)</td>
</tr>
</tbody>
</table>

### Grading Policy

**Grade Basis:**  
A > 90; 80 < B < 90; 70 < C < 80.

### Goals

To develop an understanding of fundamental principles of materials surfaces and characterization techniques. Learn to apply those principles to materials research, real-life problem solving, and new technology development.

### Course description

The course discusses properties of surfaces, principles of classic and contemporary surface characterization techniques, synthesis, manufacturing processes, and recent development and roles in advanced technology.
| Homework                                             | • Homework problems will be collected exactly one week after it is assigned, at the beginning of the class period. The solutions will be discussed during classes after collection.  
• Late homework will not be accepted. |
| Lab                                                 | Participation is required. |
| Exams                                               | There will be one midterm and one final exam.  
(a) Each exam will generally consist of problems similar in content and difficulty to the homework; however, they may differ from the homework problems. The entire solution will be graded and partial credit given if merited. Your work must show steps toward the solution; the answer alone is not sufficient. The grader will judge your use of scientific argumentation in arriving at the solution.  
(b) You must bring your student ID with you to all exams for identification purposes. |
| Homework                                             | • In the back of each book chapter there is a set of homework problems listed. Some of these problems will be assigned by the instructor.  
• Submit: By the specified deadline please hand it to or place it in the mailbox of the Teaching Assistant. Submission is required.  
• Grading: The Teaching Assistant will return the homework to you in a reasonable time with corrections and feedback.  
• For each homework set turned in by the deadline you will receive the full number of points, specified on the homework set. For each homework set not turned in on time, you will receive zero points except in the case of university excused absences. |
<p>| ADA Policy                                           | 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, in Cain Hall, Room B118, or call 845-1637. For additional information visit <a href="http://disability.tamu.edu">http://disability.tamu.edu</a>. |
| Aggie Honor Code                                     | As a student at Texas A&amp;M University, you are bound by the Aggie Honor Code: “An Aggie does not lie, cheat, or steal or tolerate those who do.” Should you have concerns or questions about ethical conduct in your studies or become aware of unethical conduct by others, please refer to the Honor Council Rules and Procedures on the web at <a href="http://www.tamu.edu/aggiehonor">http://www.tamu.edu/aggiehonor</a>. |</p>
<table>
<thead>
<tr>
<th>Week 1</th>
<th>Electronic structure of surfaces</th>
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<tr>
<td>Week 2</td>
<td>Atomic structure of surfaces</td>
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<td>Week 3</td>
<td>Physical properties</td>
</tr>
<tr>
<td>Week 4</td>
<td>Mechanical Properties</td>
</tr>
<tr>
<td>Week 5</td>
<td>Chemical Properties</td>
</tr>
<tr>
<td>Week 6</td>
<td>Surface and intermolecular forces</td>
</tr>
<tr>
<td>Week 7</td>
<td>Interfaces (including phases, bio-nano, and grain boundaries)</td>
</tr>
<tr>
<td>Week 8</td>
<td>Surface-surface interactions</td>
</tr>
<tr>
<td>Week 9</td>
<td>Particle-surface interactions</td>
</tr>
<tr>
<td><strong>Midterm</strong></td>
<td>Surface (atomic, scanning probe, surface force, etc.) microscopes.</td>
</tr>
<tr>
<td>Week 10</td>
<td>Electron Microscopy</td>
</tr>
<tr>
<td>Week 11</td>
<td>Ion microscopy</td>
</tr>
<tr>
<td>Week 12</td>
<td>Surface Engineering and Coatings</td>
</tr>
<tr>
<td>Week 13</td>
<td>Advanced topics</td>
</tr>
<tr>
<td>Week 14</td>
<td>Final examination</td>
</tr>
<tr>
<td><strong>Week 15</strong></td>
<td>Final examination</td>
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**Course Schedule**

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

Form Instructions

1. Request submitted by (Department or Program Name): Mechanical Engineering  
Course prefix, number and complete title of course: MEEN 656  
Introduction to Mechanical and Physical Properties of Thin Films and Coatings

2. Catalog course description (not to exceed 50 words): Mechanical properties (hardness, stress, strain, delamination, fracture) of films; nanomechanical testing techniques; electrical properties of thin films; electrical properties measurement techniques; magnetic properties of films; magnetic properties measurement techniques; laboratory includes (1) thin film fabrication (sputtering, PVD); (2) nanomechanical testing; (3) electrical/magnetic measurement.

4. Prerequisite(s): MEEN 222, MSEN 601, or basic materials science background  
Cross-listed with: MSEN 656  
Stacked with:

5. Is this a variable credit course? □ Yes  ❌ No  
If yes, from ______ to ______

6. 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

7. This course will be:  
a. required for students enrolled in the following degree programs(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)  
M.S. and Ph.D. in Mechanical Engineering; Materials Science and Engineering

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

9. Prefix Course Title (not including punctuation)  
MEEN 656 Properties of Thin Films  

<table>
<thead>
<tr>
<th>Text Lab Section Course Code</th>
<th>Admit Limit</th>
<th>Acct Year</th>
<th>EOC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 3 0 0 0 3 1 1 9 0 1 0 0 0 0 6 1 9 2 0 1 1 - 1 2 0 0 3 6 3 2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Approval recommended by:  
Ibrahim Karaman, Materials Science and Engineering  
Department Head or Program Chair (Type Name & Sign)  
Date

Sai C. Lau, Mechanical Engineering  
Department Head or Program Chair (Type Name & Sign)  
Date

If cross-listed course:

Submitted to Coordinating Board by:  
Associate Director, Curricular Services

Robin L. Autenrieth  
Chair, College Review Committee  
Date

Robin L. Autenrieth  
Dean of College  
Date

David W. Reed  
Chair, GC or UCC  
Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.  
Curricular Services – 3/10
MEEN/MSEN 656

Introduction to Mechanical and Physical Properties of Thin Films and Coatings

Instructor: Xinghang Zhang.
E-mail: zhangx@tamu.edu
Office hours: Monday 3:00 – 4:30 pm, or by appointment

Phone: 979-845-2143

Note: Office hours will be in ENPH 117 (office side) most of the semester.
One exception is that on Monday, Jan. 31, office hour will be in ENPH 103

Prerequisite
MEEN 222-502 or MSEN 601, or basic materials science background

Course description
Mechanical properties (hardness, stress, strain, delamination, fracture) of films; nanomechanical testing techniques; electrical properties of thin films; electrical properties measurement techniques; magnetic properties of films; magnetic properties measurement techniques; laboratory includes (1) thin film fabrication (sputtering, PVD); (2) nanomechanical testing; (3) electrical/magnetic measurement

Course Topics & Calendar
Topics
• Provides graduate students with fundamental knowledge on thin films and coatings widely used for a variety of applications.
• Instills in students the relationships between mechanical and physical properties (thermal, electrical, optical, and magnetic) and the microscopic configuration that results from specific chemical bonding, crystal structure, and microstructure; processing of thin films; defects in thin films; nucleation and growth. Enables students to predict mechanical and physical properties from processing and microstructure.
• Introduces laboratory experimentation and presentation of materials test results.

STUDENT REQUIREMENTS
• Take responsibility for individual learning
• Take responsibility for other individual's learning through participation in team activities

Grading Policy (To be determined)
The table below shows that your grade is 60% individual work and the remainder is team performance. I will assign the teams. Each team will have 2-3 students from hopefully different department. Teams will work cooperatively on team projects and laboratory reports.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent of Grade</th>
<th>Work Component</th>
<th>Dates</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Midterm</td>
<td>20</td>
<td>Individual work in a closed book exam. One formula sheet allowed.</td>
<td>Tentative date: ~ Mar. 9 (Wed.) in class</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30</td>
<td>Individual work in a closed book exam. One formula sheet allowed. Exam is comprehensive</td>
<td>May 10, Tuesday 3:30 – 5:30 pm in classroom</td>
</tr>
<tr>
<td>Homework</td>
<td>0</td>
<td>Team work is encouraged.</td>
<td>Spread throughout the semester.</td>
</tr>
<tr>
<td>Lab and Lab Reports (2-3 labs)</td>
<td>25</td>
<td>Team work. One report per team.</td>
<td>Spread throughout the semester.</td>
</tr>
<tr>
<td>Other team project - term paper</td>
<td>25</td>
<td>Term paper and presentation (A predetermined topic by the instructor)</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Grading scale: 90-100=A, 80-89=B, 70-79 = C, 60-69 = D, < 60 = F.

Midterm Exam (20%)  
You will take a one-hour exam in the class during the semester which worth 25% of your grade.

Final Exam (30%)  
The final exam will occur at the scheduled final time. The final will be worth 35% of your grade and it will be comprehensive, that is, any topic covered during the semester might appear on the final. YOU MAY NOT TAKE THE FINAL EXAM EARLY. DO NOT PLAN TO TRAVEL UNTIL YOU HAVE COMPLETED THE EXAM. If you do not make arrangements to take the exam late, I will record a grade of zero for the final and assign your course grade. If you have a significant reason for delaying the completion of the course I might agree to give you an incomplete. I must approve this in advance.

The final exam is a closed book and comprehensive test. We allow one two-side sheet of 8.5 x 11 inch paper that is 0.001 to 0.010 inches thick for your notes. All notes and images on the sheet must be hand drawn. No machine-reproduced images are allowed. You must attach your note sheet to the final exam or we will not grade it.

Homework (0%)  
Students are encouraged to work on their homework. However, homework will not be graded.

Policy for make-up exams and labs  
The policy for make-up exams will conform with Student Rule 7.3. (http://student-rules.tamu.edu).

Lab Reports (25%)  
Each group (with two teams) submits a single laboratory report for each experiment. The experiments will appear in the syllabus update. You will perform three experiments. We will
provide the report format. Team roles should rotate with each experiment. You must contribute to lab and lab report to get credits.

Other team project – term paper presentation and report (25%)
Each team will select a topic on materials science from the list suggested by the instructor. A presentation will be 25-min long followed by 5-min question and answer. Presentation and term paper will be evaluated and graded. The team can determine the format of presentation. The time of the presentation will spread out during the semester. And the topic will be related to the subject of the course before the presentation time.

For lab reports and team project
COVER SHEET: The cover sheet must include the date that you submitted the lab reports or term paper and this statement:
"On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work."
Each team will submit one lab report. The detailed format of lab reports will be given later. Your signature must appear on the cover sheet.

Absences
I handle absences as required by the Student Rules (http://student-rules.tamu.edu).

Excused Absences
7.1. The student is responsible for providing satisfactory evidence to the instructor to substantiate the reason for absence. Among the reasons absences are considered excused by the university are the following:
7.1.6. Injury or illness that is too severe or contagious for the student to attend class.
7.1.6.1 Injury or illness of three or more days. For injury or illness that requires a student to be absent from classes for three or more university business days (to include classes on Saturday), the student should obtain a medical confirmation note from his or her medical provider. The Student Health Center or an off-campus medical professional can provide a medical confirmation note only if medical professionals are involved in the medical care of the student. The medical confirmation note must contain the date and time of the illness and medical professional's confirmation of needed absence.
7.1.6.2. Injury or illness less than three days. Faculty members may require confirmation of student injury or illness that is serious enough for a student to be absent from class for a period less than three university business days (to include classes on Saturday). At the discretion of the faculty member and/or academic department standard, as outlined in the course syllabus, illness confirmation may be obtained by one or both of the following methods:
a. Texas A&M University Explanatory Statement for Absence from Class form available at http://attendance.tamu.edu
b. Confirmation of visit to a health care professional affirming date and time of visit.
7.1.6.3. An absence for a nonacute medical service does not constitute an excused absence.
Recommended course text materials.

I will use some chapters of the following textbooks for this class.


Supplemental Reading Materials

2. *Physical Vapor Deposition of Thin Films*, By John E. Mahan (2000),

Calendar (Tentative schedule)

<table>
<thead>
<tr>
<th>Dates</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1 and 2</td>
<td>Lecture 1 – 2</td>
</tr>
<tr>
<td></td>
<td>(1) Brief introduction</td>
</tr>
<tr>
<td></td>
<td>(2) Thin film deposition techniques</td>
</tr>
<tr>
<td></td>
<td>(3) Focus on sputtering</td>
</tr>
<tr>
<td>Week 2</td>
<td>Lecture 3 – 4</td>
</tr>
<tr>
<td></td>
<td>Microstructure and defects in thin films</td>
</tr>
<tr>
<td></td>
<td>Epitaxy, texture, grain size, dislocations, interface</td>
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<tr>
<td>Week 3</td>
<td>Lab 1: Deposition of thin films</td>
</tr>
<tr>
<td></td>
<td>(1) Film thickness effect</td>
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<tr>
<td></td>
<td>(2) Deposition rate effect</td>
</tr>
<tr>
<td>Week 3</td>
<td>Lecture 4 – 5</td>
</tr>
<tr>
<td></td>
<td>(1) General overview of mechanical properties</td>
</tr>
<tr>
<td></td>
<td>(2) Brief intro to film mechanical properties:</td>
</tr>
<tr>
<td></td>
<td>Film hardness, modulus, tensile strength, Indentation size effect,</td>
</tr>
<tr>
<td></td>
<td>Other size effect</td>
</tr>
<tr>
<td>Week 4</td>
<td>Lecture 6 – 8</td>
</tr>
<tr>
<td></td>
<td>Film stress and curvature of substrate</td>
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<tr>
<td>Week 5</td>
<td>Lecture By students</td>
</tr>
<tr>
<td>(students</td>
<td>Nanomechanical testing techniques</td>
</tr>
<tr>
<td>presentations)</td>
<td>(1) Nanoindentation,</td>
</tr>
<tr>
<td></td>
<td>(2) Film stress measurement</td>
</tr>
<tr>
<td></td>
<td>(3) Tension</td>
</tr>
</tbody>
</table>
| Week 5, 6 | (4) Bulge test  
(5) Micropillar tests |
|----------|------------------|
| Week 6   | Lecture 9 – 10  
Stress in patterned films |
| Week 7   | Review for midterm exam |
| Lab 2    | **Lab 2: Test the hardness of thin films**  
(1) Indentation size effect  
(2) Deposition rate effect  
(3) Layer thickness effect |
| Nanoindentation |             |
| Mar. 9   | **Midterm exam** |
| Wed.     |             |
| Spring break Mar. 14-18 |           |
| Week 8   | Lecture 11  
Delamination and fracture of films |
| Week 8, 9| Lecture 12 – 13  
Epitaxy, stress and critical thickness  
(1) Brief introduction to theory of dislocations (1 lect)  
(2) Stress textbook, Chapter 6 (2 lectures) |
| Week 9   | lecture 14:  
Dislocations in films (stress, strain relaxation) |
| Research lecture |             |
| Week 10  | Lecture 15  
Electrical properties of thin films – general introduction  
Conductivity, and charge carrier mobility |
| Week 10  | Lecture 16  
Electromigration  
Film thickness effect, layer thickness effect |
| Week 11  | **Lecture by students**  
Electrical properties measurement techniques for films |
| (Student presentation) |             |
| Week 11  | **Lab 3: Test the electrical resistivity of thin films**  
(1) Film thickness effect  
(2) Deposition rate effect  
(3) Layer thickness effect |
| Lab 3    |             |
| Electrical properties measurement |             |
| Week 12  | Lecture 17 – 18. Magnetic properties of thin films  
(1) General concept - magnetisms  
(2) Application of magnetic thin films  
Magnetoresistance – GMR effect |
| Week 12  | **Lecture by students**  
Magnetic properties measurement techniques for films |
| (Student presentation) |             |
| Week 13  | Lecture 19. Other applications of thin films  
Thin film gas sensor – hydrogen |
| If time is available |             |
| Week 13  | Student presentation – |
| Week 14  | Review for final exam |
Americans with Disabilities Act (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, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu.

Academic Integrity Statement

Aggie Honor Code: "An Aggie does not lie, cheat, or steal, or tolerate those who do." For additional information, please visit: http://aggiehonour.tamu.edu.

It is the responsibility of students and instructors to help maintain scholastic integrity at the university by refusing to participate in or tolerate scholastic dishonesty (Student Rule 20. Scholastic Dishonesty, http://student-rules.tamu.edu). New procedures and policies have been adopted effective September 1, 2004. Details are available through the Office of the Aggie Honor System (http://www.tamu.edu/aggiehonour/). An excerpt from the Philosophy & Rationale section states: “Apathy or acquiescence in the presence of academic dishonesty is not a neutral act—failure to confront and deter it will reinforce, perpetuate, and enlarge the scope of such misconduct. Academic dishonesty is the most corrosive force in the academic life of a 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. Request submitted by (Department or Program Name): AEROSPACE ENGINEERING

2. Course prefix, number and complete title of course: MEMA 634 Damage Mechanics of Solids and Structures

3. Catalog course description (not to exceed 50 words):
Damage mechanics; constitutive modeling of damage behavior of materials; application of thermodynamic laws; computational techniques for predicting progressive damage and failure; plasticity; viscoplasticity; viscoelasticity; cohesive zone modeling; fatigue and creep damage; damage in various brittle and ductile materials (e.g., metal, concrete, polymer, ceramic, asphalt, biomaterial, composites).

4. Prerequisite(s): CVEN 633 or approval of instructor

Cross-listed with: CVEN 753

Stacked with:

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

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

6. 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

7. This course will be:
   a. required for students enrolled in the following degree programs(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)

   an elective for M.S., Ph.D. in Aerospace Engineering or related fields

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

9. Prefix | Course # | Title (excluding punctuation)
---------|----------|----------------------------------------
MEMA | 6 3 4 | DAMAGE MECH SOLIDS STRUCT

Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | Acad. Year | EICE Code
-----|-----|-----|-------------------|-------------|------------|----------
0 | 3 | 0 | 0 | 3 | 1 | 4 | 0 | 2 | 0 | 1 | 0 | 0 | 6 |
0 | 1 | 0 | 0 | 1 | 2 | - | 1 | 3 | 0 | 0 | 3 | 6 | 3 | 2 |

Approval recommended by:

Rodney D. Anderson, AEDC & Ramesh Taleja - MEMA
Department Head or Program Chair (Type Name & Sign) 2/14/11
Date

Robin Autenrieth - COE
Chair, College Review Committee 3-10-11
Date

Mark Burris
Department Head or Program Chair (Type Name & Sign) 2/21/11
(if cross-listed course)

Submitted to Coordinating Board by:

Associate Director, Curricular Services

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services – 3/10
AEROSPACE ENGINEERING
MEMA 634 (crosslisted w/ CVEN 753)
Fall 2011

DAMAGE MECHANICS OF SOLIDS & STRUCTURES

INSTRUCTOR: Dr. Rashid K. Abu Al-Rub
Office: 710B CE/TTI Bldg. Phone: 862-6603 E-mail: rabualrub@civil.tamu.edu
Office Hours: T.Th. 1:00 – 2:00 PM, (Other times by appt.)

COURSE WEBSITE: http://elearning.tamu.edu [you need your TAMU (NetID) to login in VISTA]

TEXTBOOK REQUIRED: Course notes will be provided by the instructor.

COURSE PREREQUISITES: CVEN 633 or approval of instructor.

COURSE DESCRIPTION
Damage Mechanics of Solids and Structures is about understanding and modeling the degradation in mechanical properties of solids and the reduction in the structural capacity and stiffness because of the evolution of micro and macro defects in the form of cracks and voids and evolution of localized zones of fracture and failure. This course introduces the student to the state-of-the-art in constitutive modeling and computational techniques for predicting the initiation and evolution of distributed micro-defects (cracks and voids) in solids and structures and their propagation until complete failure. Therefore, unlike Fracture Mechanics which deals with one major crack, this course deals with the distribution of many micro-cracks and micro-voids that lead to degradation in the material mechanical and physical properties. Damage in various brittle and ductile materials (e.g. metal, concrete, polymer, ceramic, asphalt, biomaterial) will be studied. Coupling of damage mechanics with nonlinear and inelastic theories of (visco)elasticity and/or (visco)plasticity for different materials under different loading conditions will be presented in this course. The student will learn how to formulate a continuum damage model and how to implement it in the finite element code Abaqus via the Fortran material subroutines UMAT in Abaqus/Standard and VUMAT in Abaqus/Explicit.

BASIC COURSE OBJECTIVES
The main objectives of this course are: (1) to provide the student with a mathematical foundation for formulating damage models based on the laws of thermodynamics and their coupling with (visco)elastic/(visco)plastic constitutive models; (2) development of computational algorithms and techniques for implementing the coupled rate-independent/rate-dependent damage-elastic/inelastic models in numerical codes such as the finite element method; (3) understand the fundamental mechanisms of damage (micro-cracks and micro-voids) nucleation and evolution in solids and the progressive failure in structural systems.
ASSessment of student outcomes

Grading to be based on individual projects and homework assignments related to various aspects of damage mechanics and the use of the well-known finite element software Abaqus through its Fortran user material subroutines (e.g. UMAT, UEL, VUMAT).

The grade distribution adopted in this course is the following:

- Projects: 40%
- Homework: 60%

The final grade will be based on the following point scale:

- A: ≥ 90%
- B: ≥ 80% & < 90%
- C: ≥ 70% & < 80%
- D: ≥ 60% & < 70%
- F: < 60%

Any grade change you see justified should be brought to the attention of the instructor within one week of receiving the grade.

IMPORTANT NOTES

1. **Attendance:** You are expected to attend class, to complete all assignments, and attend all examinations.

2. **The Americans with Disabilities Act (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, in Cain Hall, Room B118, or call 845-1637. For additional information visit [http://disability.tamu.edu](http://disability.tamu.edu).

3. **Academic Integrity:** "An Aggie does not lie, cheat, or steal or tolerate those who do." For additional information please visit: [http://aggiehonor.tamu.edu](http://aggiehonor.tamu.edu/).

   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.

4. **Copyright Statement:** The handouts used in this course are copyrighted. By "handouts," it is meant that all materials that have been generated for this course including those materials generated in all previous semesters. Such materials include but are not limited to syllabi, quizzes, exams, problem sets, worked problems, materials presented on my internet site, in-class materials, review sheets, additional problem sets, and/or solutions prepared for these materials. Because these materials are copyrighted, you do not have the right to copy them, or possess copies of them outside of the normal course uses for which they were intended. Certain violations of these copyrights can be treated as violations of academic integrity and will be handled in accordance with the Aggie Honor System Process described on the following web site: [http://www.tamu.edu/aggiehonor](http://www.tamu.edu/aggiehonor).
# Topics to be Covered
*(subjected to change)*

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
</tr>
</thead>
</table>
| 1, 2 | Tensors and indicial notation  
Laws of thermodynamics and constitutive modeling |
| 3    | Introduction to fracture mechanics  
Why damage mechanics?  
Damage definition and experimental measurement |
| 4    | Continuum Damage Mechanics *(CDM)*  
Theoretical and experimental aspects of CDM  
Isotropic damage and anisotropic damage |
| 5, 6 | Elastic-damage models and numerical algorithms  
Applications to brittle materials (e.g. concrete, ceramics) |
| 7    | Abaqus and its user Fortran subroutines UMAT, VUMAT, UEL  
Examples of implementation of well-known constitutive models |
| 8    | Plasticity and viscoplasticity theories |
| 9, 10| Coupled (visco)plastic-damage models and numerical algorithms  
Applications to ductile materials (e.g. metals, metal matrix composites) |
| 11   | Creep damage and time-dependent damage  
Applications to viscoelastic materials (e.g. polymers, asphalt, and bio materials) |
| 12   | Fatigue damage |
| 13, 14| Interfacial damage and cohesive zone models  
Applications to particle reinforced micro/nano composites and to fiber reinforced composites  
Generalized continua, non-local, and gradient-dependent CDM  
Applications to strain localization and failure |

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

Form Instructions

1. Request submitted by (Department or Program Name): Materials Science and Engineering program

2. Course prefix, number and complete title of course: MSEN 616 Surface Science

3. Catalog course description (not to exceed 50 words): Properties of surfaces, principles of classic and contemporary surface characterization techniques, recent development and roles of surface science in advanced technology.

4. Prerequisite(s): Graduate Classification

Cross-listed with: MEEN 616 Surface Science

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

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

6. 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

7. 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)

M.S., M.E., Ph.D. MSEN, MEEN, AERO, ECEN, PHYS, CHEN, CHEN

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

9. Prefix  Course #  Title (excluding punctuation)

<table>
<thead>
<tr>
<th>Lec.</th>
<th>Lab</th>
<th>SCH</th>
<th>CIP and Fund Code</th>
<th>Admin. Unit</th>
<th>Acad. Year</th>
<th>FICE Code</th>
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<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

Approval recommended by:

Ibrahim Karahan, Ph.D.
Department Head or Program Chair (Type Name & Sign) Date

Sai Lau, Ph.D.
Department Head or Program Chair (Type Name & Sign) (if cross-listed course) Date

Chair, College Review Committee Date

Robin L. Auken, Ph.D.
Dean of College Date

Chair, GCO or 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 – 3/10
**MEEN/MSEN 616 Surface Science**

**Instructor:** Hong (Helen) Liang, Ph.D.  
**E-mail:** hliang@tamu.edu  
**Phone:** 979-862-2623  
**Office:** 323 ENPO

**Office hours:** Mondays and Wednesdays 1:30 p.m. – 3:00 p.m., or by appointment.  
**Class times:** TBD  
**Class room:** TBD

**Teaching Assistant:** TBA  
**E-mail:**  
**Office hours:**  
**Office:**

**Course Web pages:** WebCT-Vista  
**Prerequisite:** Graduate classification

### Texts and References

### References

### Course Credit

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Lab</td>
<td>5%</td>
</tr>
<tr>
<td>Project</td>
<td>40%</td>
</tr>
<tr>
<td>Homework</td>
<td>5%</td>
</tr>
<tr>
<td>Exams</td>
<td>50% (midterm 20%, final 30%)</td>
</tr>
</tbody>
</table>

### Grading Policy
Grade Basis: A > 90; 80 < B < 90; 70 < C < 80.

### Goals
To develop an understanding of fundamental principles of materials surfaces and characterization techniques. Learn to apply those principles to materials research, real-life problem solving, and new technology development.

### Course Description
The course discusses properties of surfaces, principles of classic and contemporary surface characterization techniques, synthesis, manufacturing processes, and recent development and roles in advanced technology.
| Homework                                      | • Homework problems will be collected exactly one week after it is assigned, at the beginning of the class period. The solutions will be discussed during classes after collection.  
• Late homework will not be accepted. |
| Lab                                           | Participation is required. |
| Exams                                         | There will be one midterm and one final exam.  
(a) Each exam will generally consist of problems similar in content and difficulty to the homework; however, they may differ from the homework problems. The entire solution will be graded and partial credit given if merited. Your work must show steps toward the solution; the answer alone is not sufficient. The grader will judge your use of scientific argumentation in arriving at the solution.  
(b) You must bring your student ID with you to all exams for identification purposes. |
| Homework                                      | • In the back of each book chapter there is a set of homework problems listed. Some of these problems will be assigned by the instructor.  
• Submit: By the specified deadline please hand it to or place it in the mailbox of the Teaching Assistant. Submission is required.  
• Grading: The Teaching Assistant will return the homework to you in a reasonable time with corrections and feedback.  
• For each homework set turned in by the deadline you will receive the full number of points, specified on the homework set. For each homework set not turned in on time, you will receive zero points except in the case of university excused absences. |
| ADA Policy/Aggie Honor Code                   | 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, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu.  
As a student at Texas A&M University, you are bound by the Aggie Honor Code: “An Aggie does not lie, cheat, or steal or tolerate those who do.” Should you have concerns or questions about ethical conduct in your studies or become aware of unethical conduct by others, please refer to the Honor Council Rules and Procedures on the web at  http://www.tamu.edu/aggiehonor. |
### Course Schedule

**Surface Science**

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Electronic structure of surfaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 2</td>
<td>Atomic structure of surfaces</td>
</tr>
<tr>
<td>Week 3</td>
<td>Physical properties</td>
</tr>
<tr>
<td>Week 4</td>
<td>Mechanical Properties</td>
</tr>
<tr>
<td>Week 5</td>
<td>Chemical Properties</td>
</tr>
<tr>
<td>Week 6</td>
<td>Surface and intermolecular forces</td>
</tr>
<tr>
<td>Week 7</td>
<td>Interfaces (including phases, bio-nano, and grain boundaries)</td>
</tr>
<tr>
<td>Week 8</td>
<td>Surface-surface interactions</td>
</tr>
<tr>
<td>Week 9</td>
<td>Particle-surface interactions</td>
</tr>
<tr>
<td><strong>Midterm</strong></td>
<td></td>
</tr>
<tr>
<td>Week 10</td>
<td>Surface (atomic, scanning probe, surface force, etc.) microscopes.</td>
</tr>
<tr>
<td>Week 11</td>
<td>Electron Microscopy</td>
</tr>
<tr>
<td>Week 12</td>
<td>Ion microscopy</td>
</tr>
<tr>
<td>Week 13</td>
<td>Surface Engineering and Coatings</td>
</tr>
<tr>
<td>Week 14</td>
<td>Advanced topics</td>
</tr>
<tr>
<td><strong>Week 15</strong></td>
<td>Final examination</td>
</tr>
</tbody>
</table>

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

Form Instructions:

1. Request submitted by (Department or Program Name): Materials Science and Engineering

2. Course prefix, number and complete title of course: MSEN 656 Introduction to Mechanical and Physical Properties of Thin Films and Coatings

3. Catalog course description (not to exceed 50 words): Mechanical properties (hardness, stress, strain, delamination, fracture) of films; nanomechanical testing techniques; electrical properties of thin films; electrical properties measurement techniques; magnetic properties of films; magnetic properties measurement techniques; laboratory includes (1) thin film fabrication (sputtering, PVD); (2) nanomechanical testing; (3) electrical/magnetic measurement.

4. Prerequisites: MEEN 222, MSEN 601, or basic materials science background

Cross-listed with: MSEN 656

Stacked with:

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

5. Is this a variable credit course? □ Yes □ No

If yes, from ______ to ______

6. 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

7. 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)

M.S. and Ph.D. in Mechanical Engineering; Materials Science and Engineering

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

9. Prefix Course # Title (excluding punctuation)

<table>
<thead>
<tr>
<th>Lec.</th>
<th>Lab</th>
<th>SCH</th>
<th>CIP and Fund Code</th>
<th>Admin. Unit</th>
<th>Acad. Year</th>
<th>FICE Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3 1 4 1 9 0 1 0 0 6</td>
<td>0 5 9 0 1 1 - 1 2 0 0 3 6 3 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Approval recommended by:

Ibrahim Esram, Materials Science and Engineering
Department Head or Program Chair (Type Name & Sign)
Date

Robin L. Autenrieth
Chair, College Review Committee
Date

Sai C. Lau, Mechanical Engineering
Department Head or Program Chair (Type Name & Sign)
Date

Robin L. Autenrieth
Dean of College
Date

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 – 3/10
**MEEN/MSEN 656**

**Introduction to Mechanical and Physical Properties of Thin Films and Coatings**

**Instructor:** Xinghang Zhang  
**E-mail:** zhangx@tamu.edu  
**Office hours:** Monday 3:00 – 4:30 pm, or by appointment  
**Phone:** 979-845-2143  
**Note:** Office hours will be in ENPH 117 (office side) most of the semester. One exception is that on Monday, Jan. 31, office hour will be in ENPH 103

**Prerequisite**
MEEN 222-502 or MSEN 601, or basic materials science background

**Course description**
Mechanical properties (hardness, stress, strain, delamination, fracture) of films; nanomechanical testing techniques; electrical properties of thin films; electrical properties measurement techniques; magnetic properties of films; magnetic properties measurement techniques; laboratory includes (1) thin film fabrication (sputtering, PVD); (2) nanomechanical testing; (3) electrical/magnetic measurement

**Course Topics & Calendar**
**Topics**
- Provides graduate students with fundamental knowledge on thin films and coatings widely used for a variety of applications.
- Instills in students the relationships between mechanical and physical properties (thermal, electrical, optical, and magnetic) and the microscopic configuration that results from specific chemical bonding, crystal structure, and microstructure; processing of thin films; defects in thin films; nucleation and growth. Enables students to predict mechanical and physical properties from processing and microstructure.
- Introduces laboratory experimentation and presentation of materials test results.

**STUDENT REQUIREMENTS**
- Take responsibility for individual learning
- Take responsibility for other individual's learning through participation in team activities

**Grading Policy (To be determined)**
The table below shows that your grade is 60% individual work and the remainder is team performance. I will assign the teams. Each team will have 2-3 students from hopefully different department. Teams will work cooperatively on team projects and laboratory reports.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent of Grade</th>
<th>Work Component</th>
<th>Dates</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Midterm</th>
<th>20</th>
<th>Individual work in a closed book exam. One formula sheet allowed.</th>
<th>Tentative date: ~ Mar. 9 (Wed.) in class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Exam</td>
<td>30</td>
<td>Individual work in a closed book exam. One formula sheet allowed. Exam is comprehensive</td>
<td>May 10, Tuesday 3:30 – 5:30 pm in classroom</td>
</tr>
<tr>
<td>Homework</td>
<td>0</td>
<td>Team work is encouraged.</td>
<td>Spread throughout the semester.</td>
</tr>
<tr>
<td>Lab and Lab Reports (2-3 labs)</td>
<td>25</td>
<td>Team work. One report per team.</td>
<td>Spread throughout the semester.</td>
</tr>
<tr>
<td>Other team project – term paper</td>
<td>25</td>
<td>Term paper and presentation (A predetermined topic by the instructor)</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Grading scale: 90-100=A, 80-89=B, 70-79 = C, 60-69 = D, < 60 = F.

**Midterm Exam (20%)**
You will take a one-hour exam in the class during the semester which worth 25% of your grade.

**Final Exam (30%)**
The final exam will occur at the scheduled final time. The final will be worth 35% of your grade and it will be comprehensive, that is, any topic covered during the semester might appear on the final. **YOU MAY NOT TAKE THE FINAL EXAM EARLY. DO NOT PLAN TO TRAVEL UNTIL YOU HAVE COMPLETED THE EXAM.** If you do not make arrangements to take the exam late, I will record a grade of zero for the final and assign your course grade. If you have a significant reason for delaying the completion of the course I might agree to give you an incomplete. I must approve this in advance.

The final exam is a closed book and comprehensive test. We allow one two-side sheet of 8.5 x 11 inch paper that is 0.001 to 0.010 inches thick for your notes. All notes and images on the sheet must be hand drawn. No machine-reproduced images are allowed. You must attach your note sheet to the final exam or we will not grade it.

**Homework (0%)**
Students are encouraged to work on their homework. However, homework will not be graded.

**Policy for make-up exams and labs**
The policy for make-up exams will conform with Student Rule 7.3. (http://student-rules.tamu.edu).

**Lab Reports (25%)**
Each group (with two teams) submits a single laboratory report for each experiment. The experiments will appear in the syllabus update. You will perform three experiments. We will
provide the report format. Team roles should rotate with each experiment. You must contribute to lab and lab report to get credits.

Other team project – term paper presentation and report (25%)
Each team will select a topic on materials science from the list suggested by the instructor. A presentation will be 25-min long followed by 5-min question and answer. Presentation and term paper will be evaluated and graded. The team can determine the format of presentation. The time of the presentation will spread out during the semester. And the topic will be related to the subject of the course before the presentation time.

For lab reports and team project
COVER SHEET: The cover sheet must include the date that you submitted the lab reports or term paper and this statement:
"On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work."
Each team will submit one lab report. The detailed format of lab reports will be given later. Your signature must appear on the cover sheet.

Absences
I handle absences as required by the Student Rules (http://student-rules.tamu.edu).

Excused Absences
7.1. The student is responsible for providing satisfactory evidence to the instructor to substantiate the reason for absence. Among the reasons absences are considered excused by the university are the following:
7.1.6. Injury or illness that is too severe or contagious for the student to attend class.
7.1.6.1 Injury or illness of three or more days. For injury or illness that requires a student to be absent from classes for three or more university business days (to include classes on Saturday), the student should obtain a medical confirmation note from his or her medical provider. The Student Health Center or an off-campus medical professional can provide a medical confirmation note only if medical professionals are involved in the medical care of the student. The medical confirmation note must contain the date and time of the illness and medical professional’s confirmation of needed absence.
7.1.6.2. Injury or illness less than three days. Faculty members may require confirmation of student injury or illness that is serious enough for a student to be absent from class for a period less than three university business days (to include classes on Saturday). At the discretion of the faculty member and/or academic department standard, as outlined in the course syllabus, illness confirmation may be obtained by one or both of the following methods:
a. Texas A&M University Explanatory Statement for Absence from Class form available at http://attendance.tamu.edu
b. Confirmation of visit to a health care professional affirming date and time of visit.
7.1.6.3. An absence for a nonacute medical service does not constitute an excused absence.
Recommended course text materials.

I will use some chapters of the following textbooks for this class.


Supplemental Reading Materials

2. **Physical Vapor Deposition of Thin Films**, By John E. Mahan (2000),

Calendar (Tentative schedule)

<table>
<thead>
<tr>
<th>Dates</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1 and 2</td>
<td>Lecture 1 – 2</td>
</tr>
<tr>
<td></td>
<td>(1) Brief introduction</td>
</tr>
<tr>
<td></td>
<td>(2) Thin film deposition techniques</td>
</tr>
<tr>
<td></td>
<td>(3) Focus on sputtering</td>
</tr>
<tr>
<td>Week 2</td>
<td>Lecture 3 – 4</td>
</tr>
<tr>
<td></td>
<td>Microstructure and defects in thin films</td>
</tr>
<tr>
<td></td>
<td>Epitaxy, texture, grain size, dislocations, interface</td>
</tr>
<tr>
<td>Week 3 Lab 1 – deposition</td>
<td><strong>Lab 1: Deposition of thin films</strong></td>
</tr>
<tr>
<td></td>
<td>(1) Film thickness effect</td>
</tr>
<tr>
<td></td>
<td>(2) Deposition rate effect</td>
</tr>
<tr>
<td>Week 3</td>
<td>Lecture 4 – 5</td>
</tr>
<tr>
<td></td>
<td>(1) General overview of mechanical properties</td>
</tr>
<tr>
<td></td>
<td>(2) Brief intro to film mechanical properties:</td>
</tr>
<tr>
<td></td>
<td>Film hardness, modulus, tensile strength,</td>
</tr>
<tr>
<td></td>
<td>Indentation size effect, Other size effect</td>
</tr>
<tr>
<td>Week 4</td>
<td>Lecture 6 – 8</td>
</tr>
<tr>
<td></td>
<td>Film stress and curvature of substrate</td>
</tr>
<tr>
<td>Week 5 (students presentations)</td>
<td><strong>Lecture By students</strong></td>
</tr>
<tr>
<td></td>
<td>Nanomechanical testing techniques</td>
</tr>
<tr>
<td></td>
<td>(1) Nanoindentation,</td>
</tr>
<tr>
<td></td>
<td>(2) Film stress measurement</td>
</tr>
<tr>
<td></td>
<td>(3) Tension</td>
</tr>
</tbody>
</table>
| Week 5, 6 | Lecture 9 - 10  
|          | Stress in patterned films |
| Week 6  | Review for midterm exam |
| Week 7  | **Lab 2: Test the hardness of thin films**  
| Lab 2   | (1) Indentation size effect  
|        | (2) Deposition rate effect  
| Nanoindentation | (3) Layer thickness effect |
| Mar. 9  | **Midterm exam** |
| Wed.    |  |
| **Spring break**  
| Mar. 14-18 |  |
| Week 8  | Lecture 11  
|         | Delamination and fracture of films |
| Week 8, 9 | Lecture 12 - 13  
|          | Epitaxy, stress and critical thickness  
|          | (1) Brief introduction to theory of dislocations (1 lect)  
|          | (2) Stress textbook, Chapter 6 (2 lectures) |
| Week 9  | Lecture 14:  
| Research lecture | Dislocations in films (stress, strain relaxation) |
| Week 10 | Lecture 15  
|         | Electrical properties of thin films – general introduction  
|         | Conductivity, and charge carrier mobility |
| Week 10 | Lecture 16  
|         | Electromigration  
|         | Film thickness effect, layer thickness effect |
| Week 11 | **Lecture by students**  
| (Student presentation) | Electrical properties measurement techniques for films |
| Week 11 | **Lab 3: Test the electrical resistivity of thin films**  
| Lab 3   | (1) Film thickness effect  
|        | (2) Deposition rate effect  
|        | (3) Layer thickness effect |
| Week 12 | Lecture 17 - 18. Magnetic properties of thin films  
|         | (1) General concept - magnetisms  
|         | (2) Application of magnetic thin films  
|         | Magnetoresistance – GMR effect |
| Week 12 | **Lecture by students**  
| (Student presentation) | Magnetic properties measurement techniques for films |
| Week 13 | Lecture 19. Other applications of thin films  
| If time is available | Thin film gas sensor – hydrogen |
| Week 13 | Student presentation – |
| Week 14 | Review for final exam |
Americans with Disabilities Act (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, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu.

Academic Integrity Statement
Aggie Honor Code: "An Aggie does not lie, cheat, or steal, or tolerate those who do." For additional information, please visit: http://aggiehonor.tamu.edu.
It is the responsibility of students and instructors to help maintain scholastic integrity at the university by refusing to participate in or tolerate scholastic dishonesty (Student Rule 20. Scholastic Dishonesty, http://student-rules.tamu.edu). New procedures and policies have been adopted effective September 1, 2004. Details are available through the Office of the Aggie Honor System (http://www.tamu.edu/aggiehonor/). An excerpt from the Philosophy & Rationale section states: “Apathy or acquiescence in the presence of academic dishonesty is not a neutral act—failure to confront and deter it will reinforce, perpetuate, and enlarge the scope of such misconduct. Academic dishonesty is the most corrosive force in the academic life of a university.”
Texas A&M University

Departmental Request for a New Course
Undergraduate • Graduate • Professional

1. Request submitted by (Department or Program Name): Women's and Gender Studies Program

2. Course prefix, number and complete title of course:
   WGST 645, Queer Theory

3. Catalog course description (not to exceed 50 words):
   Examines origins of theories of gender and sexual diversity and their intersections with feminist theories; considers foundational and contemporary texts that address queer theory

4. Prerequisite(s):
   Cross-listed with:
   Stacked with: WGST 445

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

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

7. 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)
   Graduate certificate in Women's and Gender Studies, graduate general academic

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

9. Prefix Course # Title (excluding punctuation)
   WGST 645 Queer Theory

   0 3 0 0 0 3 0 5 2 0 8 0 0 1 1 7 3 5 1 2 - 1 3 0 0 3 6 3 2

   Approval recommended by:
   Claire Katz Department Head or Program Chair (Type Name & Sign) Date
   Chair, College Review Committee Date
   Dean of College Date
   Chair, GC or UCM 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 – 3/10
WGST 645: Queer Theory
Fall 2012

Instructor: Dr. Ashley Currier
Class meeting time: TBD
Office hours: TH, 2-3pm & by appt.

Email: currier@tamu.edu
Meeting location: TBD
Office location: 022 Legett

In this course, we will examine the underpinnings of queer theory and its intersections with feminist and other humanistic and social-science theories. We will become familiar with different concepts underlying queer theory, such as the social construction of bodies, genitals, sex, gender, and sexuality, the performativity of genders and sexualities, the construction and contestation of public space through queer bodies, and the coexistence and struggles of gender and sexual identities. The course requires much reading of sometimes frustrating texts, but our class discussions and individual writing assignments will explore complex concepts that inform queer lives, culture, and politics.

Course Objectives
This course has several objectives. By the end of the course, students should be able to
1. Explicate the origins of and new developments in queer theory.
2. Articulate how queer theory intersects with critical feminist theories and political activism.
3. Explain the limitations of queer theory. Students will be able to state what it cannot do or does not yet do.
4. Situate readings within an intellectual conversation in queer studies.
5. Account for how they can use queer theory in their own research.

Prerequisites:
Graduate classification is required for enrollment in this course.

Readings
Required Books (available in college bookstores and on reserve at Evans Library, 2nd floor)


**Required Articles and Book Chapters** (*Available on Evans Library E-Reserve course website.*)


Recommended Books, Articles, and Chapters (Available on reserve at Evans Library, 2nd floor or online through https://library-reserves.tamu.edu/ares/caslogin.asp)


**Accommodation:**
The Americans with Disabilities Act (ADA) is a federal antidiscrimination 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 that you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities in Room B-118 in the Cain Building, or call (979) 845-1637.

**Course Policies:**
1. **Class conduct:** We will be discussing sensitive topics in this class. I expect students to conduct themselves professionally. If, after reviewing the topics on the course schedule, you feel that you cannot follow these provisions, you should consider enrolling in another course.
   a. Do not engage in side conversations that distract you or your fellow students. I will call you out, if I see you talking to someone else while either I or another student is speaking.
   b. Silence your cell phone (or put it on vibrate), and keep it in your bag during class.
   c. Put away all reading materials that are not related to this class. This includes newspapers.
   d. I will not tolerate snickering, side conversations, or any responses that indicate that the material we are discussing is not worth covering.
2. **Film screenings:** You are responsible for any films we screen in class; they will appear on the exams. If the library owns the film, you may watch it on a machine maintained by Educational Media Services (Evans Library Annex, 4th floor), or you may watch the films online at: [http://mediamatrix.tamu.edu](http://mediamatrix.tamu.edu). You must screen all films before coming to class.
3. **Attendance and absences:** I will take attendance daily. You are responsible for handing in assignments on the due date, taking the exams, and obtaining class notes from another student. You are also responsible for any material we cover in class. You may miss two classes without jeopardizing your class participation grade. I will deduct one class participation point beyond every class you miss beyond the two “free” absences.
   a. **University-authorized absences:** I understand that sometimes, students will miss class due to University-authorized events. If you must miss class, you must provide me with an official note from the person in charge of the event, which attests to the fact that you participated in the event, the date(s) of the event in which you participated, and the event’s location. Let me know in advance if you know that you will miss class because of a University-authorized event. If you cannot notify me in advance, bring the documentation to class immediately after the event.
   b. **Emergencies:** Tragedies or emergencies do befall students. If you miss class because of an unfortunate circumstance, contact me as soon as you can. If you are seriously ill, bring an official physician’s note explaining simply that you were ill on the dates you missed class. Due to health privacy laws (HIPAA), do not provide me with documentation that explains the exact nature of your illness. It is sufficient for me to receive confirmation that you missed class because of a physician-verified health matter.
   c. **Illness:** If you are ill and suspect that you might be contagious, please do NOT come to
class. I will excuse your illness, as long as you bring an excuse from a physician.

d. **Religious observance:** Some students may miss class because their faith requires them to abstain from work in observance of a holy day. If you miss class to observe a holy day, contact me and specify which holy day you will be observing.

**Academic Integrity:** In this course, I will take the Aggie Honor Code very seriously: “An Aggie does not lie, cheat, or steal or tolerate those who do” (http://www.tamu.edu/aggiehonor). This means that I will take action if I believe that a student is cheating on assignments or exams or is plagiarizing material. Plagiarism is an academic violation, and I will deal with instances of plagiarism swiftly and go through the appropriate institutional channels. The following website offers detailed definitions of academic misconduct, plagiarism, and cheating: http://www.tamu.edu/aggiehonor/Student%20Rules/definitions.html.

1. Any student caught cheating on an exam or quiz will earn a “0” for that exam/quiz.
2. Any student caught engaging in academic misconduct, such as plagiarism, on a writing assignment will earn a “0” for that assignment.
3. I will report the student suspected of academic misconduct to the Aggie Honor System Office.

**Course Evaluation**

1. **Grading:**
   a. **Fairness:** Grading all students fairly and impartially is important to me. Therefore, I require you to submit the writing assignment and essay exams anonymously. (Your name must appear only on the back of the essay or exam’s last page). I will post all PowerPoint lecture slides and accompanying material on Vista under “Lectures” in the “Course Content” section.
   b. **Notification:** Check your grade on Vista. I strive to post grades on Vista from quizzes, exams, and the writing assignment as soon as I can. Please give me two weeks from the day you hand in material to me before you inquire about your grade. Due to University policy, I am prohibited from discussing your grades with anyone but you in person. I also cannot communicate your grade to you through email or over the phone. If you believe I have erred in recording a grade, give me the graded assignment in class, and I will correct the grade as soon as I can.
   c. **Total points:** A total of 100 points (100%) are possible in this course: class participation (10 points), annotated bibliography and outline (5 points), weekly reading questions (10 points), research paper (35 points), 6 response papers (5 points each * 6=30 points), and an in-class presentation (10 points).
   d. **Scale:** If your final grade is on the cusp of two grades, I will round your final grade up to the higher grade. For instance, if you earned a 69.5 for your final grade, I will round your final grade up to a 70. I will assign letter grades based on the following scale.  
      90-100: A  80-89: B  70-79: C  60-69: D  0-59: F

2. **Class participation** (10% of final grade—10 points) and attendance are required. I will take attendance each class. Students can miss one class without penalty; missing more than one class will result in the loss of one class participation point per each absence. Simply showing up for class does not mean that you will earn participation points. Class participation entails making meaningful contributions to class discussions in the form of questions and comments. Please see the grading rubric below for the class participation grading scale.
a. 0 points: The student does not participate at all in class discussions.
b. 1-2 points: The student participates in class and group discussions very few times, only offering short, perfunctory responses.
c. 3-4 points: The student’s contributions to class discussion are limited to asking elementary questions about the course material and readings.
d. 5-6 points: The student makes an earnest effort to participate in class discussions, but these contributions are limited to questions about the readings and course material.
e. 7-8 points: The student regularly makes insightful comments in class, raises important questions about the course material, and engages other students in discussion.
f. 9-10: points: The student constantly pushes her/his/hir understanding of the course material with thought-provoking comments. It is obvious that the student is honing her/his critical-thinking skills with the exceptional questions she/he/ze raises.

3. **Reading questions** (10% of final grade): Students **must** post 2 thoughtful reading questions to the WebCT/Vista discussion board each week. We will use these questions to guide our discussions. I encourage you to direct other readers to specific passages that troubled or puzzled you. You may also pose “big-picture” questions that interrogate the author’s intellectual project or the foundations of the author’s inquiry. Please post questions under the appropriate subject headings on the discussion board. You will lose 1 point for every week that you do not post 2 questions and 0.5 point for every question you omit. If you post two thoughtful questions to the discussion board each week, you will keep these 10 points. You must post questions by 12pm on the Monday before class.

4. **Class presentation** (10% of final grade): Students are required to give one 15-20-minute, in-class presentation about one recommended reading listed on the presentation sign-up sheet. Students should assemble a PowerPoint presentation to accompany their presentation; I will post presentation slides to Vista after class. In your presentation, you should summarize the text’s argument, link the reading to questions and concepts we have discussed in class, and identify the piece’s strengths and weaknesses. Follow the response paper guidelines below in #4 for the response paper that you will submit to me. The grade will be based on the presentation and the written response paper. I will deliver a mock presentation on the first day of class.

5. **Response papers** (30% of final grade—5 points each * 6=30 points): Students will write 5 short response papers to one book. Response papers should be double-spaced and contain 4-5 paragraphs. Students should write one paragraph that answers each of the following questions:
   a. Summarize the reading.
   b. What are the reading’s (theoretical, conceptual, empirical, or methodological) strengths?
   c. What are the reading’s (theoretical, conceptual, empirical, or methodological) weaknesses?
   d. How can the student use this reading in her/his/hir own research? OR How does this reading contradict or enhance other readings the student has done?
   e. For class on October 16, 2012, you will need to bring a table to class summarizing what we know and do not yet know about queer theory. Your table should be detailed and grounded in the readings we have done so far in class. You may construct the table as an actual table or create two sections with bullet points: “What we know about queer theory”
and "What we do not know about queer theory." Use complete sentences. I will collect these in class. This will constitute the sixth response paper.

6. **Outline and annotated bibliography** (5% of final grade—5 points): Students will turn in an outline of their research paper, along with an annotated bibliography that summarizes at least 5 readings (books and/or articles). This assignment has three components:
   a. **Summary**: Present the research question you will answer, and summarize what you will do in your research paper (1 paragraph).
   b. **Outline**: Provide a sentence outline of the structure of your paper (1-2 pages).
   c. **Annotated bibliography**: Provide complete bibliographic information for the book, article, or book chapter. In a few sentences, summarize each reading directly under the bibliographic entry, and explain why the reading constitutes queer scholarship and how you will use it in your project. I expect to see five distinct paragraphs for the annotated bibliography. The five readings you select may *not* be assigned readings for this class, but you may use the recommended readings for this assignment. (You may certainly use the required readings in your final paper, but I want you to expand your reading list to encompass other texts for this assignment). This assignment is due in class on **October 2, 2012**.

7. **Research Paper** (35% of final grade—35 points): Students will engage in original research and write a 15-20-page paper related to queer theory. Papers may be theoretical, empirical, or methodological. Papers should be no longer than 20 double-spaced pages, excluding the bibliography. All research papers must have a bibliography. **Dual submissions**—submitting one paper to two classes—are not permitted, but I am willing to discuss letting you write a shorter, stand-alone piece related to a larger project. **This assignment is due in class on Tuesday, December 4, 2012**.

8. I will grade assignments based on their accuracy, clarity, content, organization, correct usage of grammar, and adherence to academic writing standards. (See the grading rubric below). I will return papers that do not correspond to these guidelines.

9. **Paper formatting**: Double space your paper. Use one-inch margins and 12-point Times New Roman font. **DO NOT** put your name on the front of the paper; handwrite it on the back of the paper. You must put page numbers in the center of the bottom of each page. All papers must be stapled. Papers may be single sided or double sided. Do not use a cover sheet.

10. **Citation style**: I expect students to adhere to the citation style recommended by the American Sociological Association, American Psychological Association, or Modern Language Association in all papers. Do not embed bibliographic information in footnotes.

11. Use **footnotes** not endnotes.

12. **Fairness**: Grading all students fairly and impartially is important to me. Therefore, I will require you to submit all writing assignments and exams anonymously. **Do not** put your name on the first page of any paper you submit to me. Your name must appear only on the back of the essay's last page.
13. **Notification:** Check your grade on Vista. I strive to post grades on Vista from writing assignments as soon as I can. Please give me two weeks from the day you hand in material to me before you inquire about your grade. Due to University policy, I am prohibited from discussing your grades with anyone but you in person. I also cannot communicate your grade to you through email or over the phone. If you believe I have erred in recording a grade, give me the graded assignment in class, and I will correct the grade as soon as I can.

14. **Grade contestation:** Should you wish to contest a grade I give you, I reserve the right to regrade the assignment or exam. When re-grading, I may raise or lower the grade as I re-evaluate every aspect of the assignment in question.

15. **Grading scale:** I round up grades ending in .5 for those students who are on the cusp between grades, such as between an A- and B+.

| 90-100: A | 80-89: B | 70-79: C | 60-69: D | 0-59: F |

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### Schedule

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<thead>
<tr>
<th>Week and Theme</th>
<th>Readings and Assignments (* denotes student presentation about reading)</th>
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| **August 28, 2012**  
Origins of Queer Theory | **Required:** Jagose (1996); Seidman in QTS—Please complete these readings before coming to class on the first day.  
Recommended: Eng & Hom (1998); Johnson & Henderson (2005); Marcus (2005); Warner (1993) |
| **September 4, 2012**  
Discourses & Constructions of Sexuality | **Required:** Foucault (1978); Somerville (1994)  
| **September 11, 2012**  
Interrogating (Hetero)Sexual Normalcy | **Required:** Carter (2007)  
Recommended: Berlant & Warner (1998); Duggan (2002); McIntosh, Weeks, Plummer, and Adam in QTS |
| **September 18, 2012**  
Gender Performativity | **Required:** Butler (2006); screen Judith Butler: Philosophical Encounters of the Third Kind on MediaMatrix before coming to class.  
Recommended: Davis (2008); Eves (2004); Hennessy (1994) |
| **September 25, 2012**  
Queer Theory & Sociology | **Required:** Epstein (1987); Halberstam (1998); Kong, Mahoney, & Plummer (2001); Stein & Plummer & Epstein in QTS  
**Recommended:** Gamson & Moon (2004); Green (2007); Meeks (2001); Plummer (2000); Seidman (2002); Valocchi (2005) |
| **October 2, 2012**  
Feminist-Queer Intersections | **Outline and annotated bibliography due**  
**Required:** Glick (2000); Hammonds (1997); Ingraham in QTS; Rubin (1993). **Read Rubin (1993) first.**  
**Recommended:** Garber (2001); Halley (2006); McIntosh (1993); Rudy (2000, 2001) |
| **October 9, 2012**  
Criticisms of Queer Theory | **Required:** Cohen (2007); Martin (1994); Namaste (2000)  
**Recommended:** Angelides (2006); Ferguson (2004); Giffney (2004); Goldman (1996); Green (2002, 2008); Jeffreys (1994); Muñoz (1999); Prosser (1998) |
<p>| <strong>October 16, 2012</strong> | What do we know about queer theory, its usefulness, and its |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Required</th>
<th>Recommended</th>
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<tbody>
<tr>
<td>November 27, 2012</td>
<td>Summary: What we know about queer theory</td>
<td></td>
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<tr>
<td>December 4, 2012</td>
<td>Final paper due in class</td>
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<tr>
<td>Assignment components</td>
<td>Awesome!</td>
<td>Good work</td>
<td>Satisfactory</td>
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<tr>
<td>Use of queer theoretical concepts</td>
<td>The writer skillfully intertwines several queer theoretical concepts to advance a sophisticated argument or understanding of social and cultural issues.</td>
<td>The writer uses 2 or 3 queer theoretical concepts well and develops them, but does not construct a framework that links all of the concepts together.</td>
<td>The writer uses a couple of queer theoretical concepts, but does not explain them in sufficient detail.</td>
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<td>Max. # of pts.: 8.75</td>
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<tr>
<td>Organization</td>
<td>The paper is clearly organized. For instance, each paragraph’s topic sentence clearly introduces a new topic or issue, while advancing an identifiable argument or interpretation of the issues.</td>
<td>The paper is well organized, but there are gaps in the writer’s logic in moving from one concept or issue to another.</td>
<td>The paper’s topic sentences and explanation of concepts are incomplete and misleading.</td>
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<td>Max. # of pts.: 8.75</td>
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<td>Presentation</td>
<td>The paper is polished and presented in a sophisticated manner.</td>
<td>The paper is relatively well written, but there are a few awkward sentences and phrases that could have been corrected.</td>
<td>The paper has many awkward sentences and phrases, and the sentences do not “hang together” in a way that propels the paper forward.</td>
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<td>Max. # of pts.: 8.75</td>
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<td>Grammar</td>
<td>The paper contains no grammatical errors.</td>
<td>The paper contains minor grammatical errors that could have been corrected with revision.</td>
<td>The paper contains several grammatical errors unacceptable in college writing.</td>
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<td>Max. # of pts.: 8.75</td>
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Deductions for violations: ____ points

Total: ____ /35 points