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

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

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

3. Course prefix, number and complete title of course:
   BIOL 683 EXPERIMENTAL DESIGN IN BIOLOGY

4. Catalog course description (not to exceed 50 words):
   Course will provide introduction to the design of scientific research projects in the field of biology; a wide range of biological experiments will be covered and each type of experiment will be designed with an eye toward choosing the appropriate statistical technique for analysis; students will be able to design biological studies that are statistically tractable and perform basic statistical analyses using the statistical programming language R.

5. Prerequisite(s):
   - Graduate classification and STAT651 or approval of instructor
   - Cross-listed with:
   - Stacked with:

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

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

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

9. Will this course be submitted to the Core Curriculum Council? □ Yes □ No
   - □ P/F (CLAD)
   - □ Yes

10. How will this course be graded: □ Grade □ S/U □ P/F

11. This course will be:
   - □ required for students enrolled in the following degree program(s) (e.g., B.A. in history)
     BIOL
   - □ an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)
     PhD and M.S in any biological science discipline

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

13. Faculty Course Title and Milling Information:

   BIOL 683 EXPERIMENTAL DESIGN BIOL

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   Approval recommended by:
   Wayne Voss

   Date: 3-24-16

   Department Head or Program Chair (Type Name & Sign)

   Chair, College Review Committee
   Date: 3-31-16

   Dean of College
   Date: 3-31-16

   Submitted to Coordinating Board by:
   Chair, Curriculum Services
   Date: 6/28/16

   Associate Director, Curricular Services

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

Form Instructions
1. Course request type:  □ Undergraduate  □ Graduate  □ First Professional (DDS, MD, JD, PharmD, DVM)
2. Request submitted by (Department or Program Name):  Department of Biology
3. Course prefix, number and complete title of course:  BIOL 683 EXPERIMENTAL DESIGN BIOLOGY

4. Catalog course description (not to exceed 50 words):
Course will provide instruction to the design of scientific research projects in the field of biology; a wide range of biological experiments will be covered and each type of experiment will be designed with an eye toward choosing the appropriate statistical technique for analysis; students will be able to design biological studies that are statistically tractable and perform basic statistical analyses using the statistical programming language R.

5. Prerequisite(s):
Graduate classification and STAT651 or approval of instructor

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

10. This course will be:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)
      BIOL
   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)
      PhD and MS in any biological science discipline

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

13. Prefix  Course #  Title (excluding punctuation)
    BIOL  683  EXPERIMENTAL DESIGN BIO

Lect.  Lab  Other  SCH  CIP and Fund Code  Admin. Unit  Acad. Year  FICE Code
3.00  0.00  3.00  26.1102  0440  16 - 17  0  0  3  6  3  2

Approval recommended by:

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  Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services – 07/14
BIOL689 Experimental Design in Biology

Instructor:
Dr. Adam G. Jones
Office Location: BSBE 118C
Office Phone: 979-845-7774
Email: ajones@bio.tamu.edu
Office Hours: by appointment

Learning Objectives:
This course is intended to provide an introduction to the design of scientific research projects in the field of biology. A wide range of biological experiments will be covered, and each type of experiment will be designed with an eye toward choosing the appropriate statistical technique for analysis. At the end of the course, successful students will be able to design biological studies that are statistically tractable and perform basic statistical analyses using the statistical programming language R.

Required Textbook:

Grading:
Grades will be based on 10 homework assignments (10 points each), two exams (100 points each), and class participation (100 points), for a total of 400 points. The breakdown of grades will be: 0-60% = F; 60%-70% = D; 70%-80% = C; 80%-90% = B; 90%-100% = A.

Makeup Assignments:
Makeup assignments will be given only for excused absences. Written documentation will be necessary to show that an absence qualifies as an official excused absence according to TAMU policy. The student must contact the course instructor within 3 days to arrange a makeup assignment or the grade will be converted to a zero.

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, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit http://disability.tamu.edu.

Aggie Honor Code:
"An Aggie does not lie, cheat or steal, or tolerate those who do." See http://aggiehonor.tamu.edu.
Topics: (corresponding roughly to one topic per week)

(1) Introduction statistical reasoning: Why do biologists need statistics?
(2) How can we summarize and describe tables of biological data?
(3) Why do we need and how do we use controls in the biological sciences?
(4) What is pseudoreplication and how do I avoid it?
(5) Not everything can be controlled – what can I do?
(6) Estimating allele frequencies, growth rates, and other biological variables.
(7) Analyzing “natural experiments” in the environmental sciences.
(8) Analyzing comparative data in a phylogenetic context.
(9) Comparing growth curves and time sequences.
(10) Genome-wide association studies and quantitative trait locus analysis.
(11) Population genomics and RNA-sequencing.
(12) ChipSeq, genome assembly, and other applications involving huge data sets.
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
• Submit original form and attach a course syllabus.

Form Instructions
1. Course request type:
   ☐ Undergraduate  ☑ Graduate  ☐ First Professional (DDS, MD, JD, PharmD, DVM)
2. Request submitted by (Department or Program Name):
   Department of Biomedical Engineering
3. Course prefix, number and complete title of course:
   BMEN 658: Motion Biomechanics
4. Catalog course description (not to exceed 50 words):
   Skeletal anatomy and mechanics; muscle anatomy and mechanics; theory and application of electromyography;
   motion and force measuring equipment and techniques; inverse dynamics modeling of the human body. Emphasis on
   musculoskeletal biomechanics research.

5. Prerequisite(s):
   Graduate classification or consent of instructor.
   Cross-listed with:
   Stacked with: BMEN 458 (also new)

6. Is this a variable credit course?
   ☐ Yes  ☑ No

7. Is this a repeatable course?
   ☐ Yes  ☑ No
   If yes, from _______ to _______
   If yes, this course may be taken _______ times.

Will this course be repeated within the same semester?
   ☐ Yes  ☑ No
   If Yes, _______ times.

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

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

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

   MS BMEN, M.S. Engineering, PhD BMEN

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

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

13. Prerequisite Courses:
   Title (including pronunciation)

   BMEN 658  MOTION BIOMECHANICS

   Unit  Credit
   Type  Date  Other  S/U  CRP and Final Code  Admin Unit  Year  Term  Fall  Winter  Spring  Summer
   3.00  0.00  0.00  3.00  1405010006  0450  17  18  0  0  6  3  3  2

   Approval Recommended by:

   Department Head or Program Chair (Type Name & Sign) Date
   Chair, College Review Committee  02/18/2016  4/4/16

   Department Head or Program Chair (Type Name & Sign) Date
   Dean of College  02/18/2016  4/4/16

   Submitted to Coordinating Board by:

   Associate Director, Curricular Services  Date

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

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

Form Instructions

1. Course request type: □ Undergraduate □ Graduate □ First Professional (DDS, MD, JD, PharmD, DVM)
2. Request submitted by: (Department or Program Name): Department of Biomedical Engineering
3. Course prefix, number and complete title of course: BMEN 658: Motion Biomechanics
4. Catalog course description (not to exceed 50 words):
Skeletal anatomy and mechanics; muscle anatomy and mechanics; theory and application of electromyography; motion and force measuring equipment and techniques; inverse dynamics modeling of the human body; current topics in musculoskeletal biomechanics research.

5. Prerequisite(s):

Graduate classification or consent of instructor.

Cross-listed with:

Stacked with: BMEN 458 (also new)

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

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

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

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

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

10. This course will be:

a. required for students enrolled in the following degree 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)

MS BMEN, M.S. Engineering, PhD BMEN

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

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

13. Prefix | Course # | Title (excluding punctuation)
BMEN 658 | MOTION BIOMECHANICS

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Approval recommended by:

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

Chair, College Review Committee Date

Dean of College Date

Submitted to Coordinating Board by:

Chair, GC or UCC Date

Associate Director, Curricular Services

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
Curricular Services – 07/14
Course and title: BMEN 458/658 – Motion Biomechanics
Term: Fall 2016
Course Credit: 3 (3-0)

Instructor: Prof. Michael Madigan
Office: 5063 Emerging Technologies Building (ETB)
Office Hours: TR 10:50-11:30 am
E-mail: mlm@tamu.edu

Class Time: T/Th 9:35-10:50 am
Classroom: ETB 5039

Learning Objectives: Students will be able to:
- Explain the anatomy and physiology involved in a muscle contraction
- Describe biomechanical factors that affect muscle force production
- Quantify muscle force, muscle activation timing, and localized muscle fatigue using electromyography and signal processing techniques
- Measure human balance a force platform and signal processing techniques
- Apply rigid-body dynamics to the human body to estimate internal loads on the musculoskeletal system
- Use computer code to analyze data collected in a research laboratory to extract meaningful information
- Describe state-of-the-art equipment used in biomechanics research, including their usefulness and limitations

Course Description: Skeletal anatomy and mechanics; muscle anatomy and mechanics; theory and application of electromyography; motion and force measuring equipment and techniques; inverse dynamics modeling of the human body; current topics in musculoskeletal biomechanics research.

Undergraduate Prerequisite: Junior or senior classification in engineering, and BMEN 207. Students should also have at least a basic proficiency using Matlab.

Graduate Prerequisite: Graduate classification. Students should have at least a basic proficiency using Matlab.

Textbook: There is no required textbook for this class. Frequent handouts will be provided to support lecture material. Supplementary textbooks include:
- Biomechanics and Motor Control of Human Movement. D.A. Winter
- Biomechanics of the Musculoskeletal System. B.M. Nigg & W. Herzog
- Biomechanics and Biology of Movement. Nigg, MacIntosh, Mester, Eds
- Neuromechanics of Human Movement. R. Enoka

Attendance Policy: Work missed due to absences will only be excused for University-approved activities in accordance with Texas A&M University Student Rules (http://student-rules.tamu.edu/rule07). You are responsible for all course material presented. A request for a rescheduled assignment must be made at least one week before the regularly scheduled date (except in unavoidable situations, such as a medical emergency consistent with Student Rules).
Grading:

- Lab Reports 40 %
- Tests (2) 25 % each
- Project 10 %

There is no Final Exam for this class.

Final grades are expected to be distributed according to the following percentage scale, and may be scaled (curved) to match class performance:

- A = 90–100%, B = 80–89.9%, C = 70–79.9%, D = 60–69.9%, F < 60%.

Course Outline (subject to change as necessary):

- Week 1 Movement terminology, bone and muscle anatomy and physiology
- Week 2 Muscle function, library research skills
- Week 3 Muscle function
- Week 4 Muscle physiology, electromyography
- Week 5 Electromyography signal processing
- Week 6 Force platforms, human balance
- Week 7 Force platform signal processing
- Week 8 Motion analysis systems, link-segment modeling
- Week 9 Kinematic data processing
- Week 10 Kinematic data processing
- Week 11 Inverse dynamics analyses
- Week 12 Project presentations
- Week 13 Project presentations
- Week 14 Inverse dynamics analyses

Lab Reports: Each lab will culminate in a lab report that must be written in the format of a typical journal article. It should document the experiment and your results, and answer questions on the lab assignment. You must also quantitatively compare your results to at least two peer-reviewed journal articles in each lab report. (This means you need to explicitly compare some numbers derived from your analysis with numbers from other studies.) You are encouraged to discuss approaches to problems with your classmates, but your final MATLAB code and lab report must be your own independent work. Lab reports should be no longer than 2 pages (one side is a page), and font no smaller than 11 point. Students in BMEN 489 will be required to answer additional questions on lab reports, reference at least five peer-reviewed journal articles in each lab report, and their reports should be no longer than 3 pages.

Project: The project consists of a written paper and class presentation summarizing the current state of knowledge on a topic related to musculoskeletal biomechanics. Some possible general topic areas include: falls in the elderly, low back pain/injury, gait, and athletic performance. The paper’s content should also have a healthy amount of quantitative biomechanical data. You are not expected to perform any kind of analysis for this paper. It is meant to be a literature review of a topic of your choosing. During your presentations, your audience is the class (not me) and you will be expected to teach the class about your topic because everyone will be tested over the material presented. The written paper will be a maximum of 3 pages in length (single spaced), and the class presentation will be 10-12 minutes. Your paper should cite at least five references, with at least three different journals and three different sets of investigators. Web pages do not count as references. Assume your audience for the presentation and paper is your class. For students in BMEN 489, you will work in groups of two. For students in BMEN 689, you will work by yourself.

The paper will count as 50% of your project grade, and the presentation 50% of your project grade.
Project Deadlines: All items due at the beginning of class on the due date.

Topic statement: Sept 20
Written paper: TBD
Class presentations: TBD

Americans with Disabilities Act Policy Statement:
The Americans with Disabilities Act 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, located at Students Services @ White Creek, or call 845-1637. For additional information please visit http://disability.tamu.edu.

Academic Integrity Statement:
Aggie Honor Code: “An Aggie does not lie, cheat, or steal or tolerate those who do.” http://aggiehonor.tamu.edu
Texas A&M University

Departmental Request for a New Course
Undergraduate • Graduate • Professional

Submit original form and attach a course syllabus.

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

2. Request submitted by (Department or Program Name):
   Department of Electrical and Computer Engineering
   ECEN 766 Algorithms in Structural Bioinformatics

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

4. Catalog course description (not to exceed 50 words):
   Fundamental concepts, modeling techniques, and computational algorithms in structural bioinformatics for algorithm development and application; focus on algorithm perspective involving optimization and machine learning; essentials for those without prior domain knowledge.

5. Prerequisite(s): Approval of Instructor

   Cross-listed with: Stacked with:

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

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

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

    MS, MEN, PhD in ELEN and CEEN

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

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

13. Prefix Course # Title (excluding punctuation) ALG STRUCT BIOINFORMATICS

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   Approval recommended by:

   Department Head or Program Chair (Type Name & Sign) 04/08/16
   Chair, College Review Committee

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

   Submitted to Coordinating Board by:
   Effective Date

   Date
   Associate Director, Curricular Services

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Course title and number  ECEN 766 Algorithms in Structural Bioinformatics
Term  Fall 2016
Meeting times & location  TBA

Course Description and Prerequisites

This course introduces fundamental concepts, modeling techniques, and computational algorithms in structural bioinformatics especially for students interested in algorithmic development and application for computational challenges arising from the field. With a focus on algorithms involving molecular modeling, systems simulation, optimization, and learning, the course provides essential knowledge for students without prior background in the application domain and addresses learning barriers for them to make unique contributions to the field.

Applications of these algorithms are centered on how to analyze, predict, and engineer biomolecules and biomolecular systems: protein structure and function prediction, protein docking, computer-aided drug design, and biomolecular systems engineering. Algorithmic solutions to these applications can provide case studies for algorithmic thinking and innovation. Students interested in practical problem-solving skills for specific applications are also welcome.

The course will involve literature-based presentation, case studies, short projects in homework, and a main final project, in addition to regular lectures.

Prerequisites: Basic knowledge in algorithms and programming. No prior knowledge in biomolecules or biomolecular systems is required.

Learning Outcomes

By taking the course, students are expected
1. to gain knowledge about fundamental concepts, pressing challenges, and rich opportunities in developing and applying algorithms for structural bioinformatics and healthcare;
2. to apply and to strengthen engineering principles and algorithmic thinking to the emerging applications of structural bioinformatics and other fields; and
3. to develop practical skills in computational approaches to analyze, predict, and engineer biomolecules and biomolecular systems.

Instructor Information

Name  Yeng Shen
Telephone number  979-862-1694
Email address  yshen@tamu.edu
Office hours  TBA or by appointment
Office location  Wisenbaker Engineering Building 223A

Textbook and Resource Material

There is no official textbook for this course. Materials such as slides, tutorials, papers and book chapters will be provided through eCampus. In addition, students are welcome to use the following books for references.
Recommended Textbooks:

Other References:

Grading Policies

Weights towards final grades

- 20% Homework
- 25% Midterm Exam (tentative: around October 16; exact date to be announced)
- 15% Mini Project (tentative: around Nov. 8; exact date to be announced)
- 40% Final Project Presentation (early December) and Report (tentative due date: Dec. 15)

Tentative Grading Scale:

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<th>Grade</th>
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<td>A</td>
<td>90% - 100%</td>
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<tr>
<td>B</td>
<td>80% - 89%</td>
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<tr>
<td>C</td>
<td>70% - 79%</td>
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<tr>
<td>D</td>
<td>60% - 69%</td>
</tr>
<tr>
<td>F</td>
<td>0% - 59%</td>
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Final grades will be determined numerically based solely on individual standing to reflect how well students do in homework, exams, and projects. This approach is adopted to ensure at least a fair mechanism to assess how well students learn course materials and accomplish course goals. Meanwhile, diversity in student background and interests will be respected and reflected in final project topics.

Course Topics

Here is the tentative course outline with approximately assigned lecture time:

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<tr>
<th>Week</th>
<th>Topic</th>
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<tr>
<td>1-2</td>
<td>Introduction to biomolecules and structural bioinformatics</td>
<td>B1-2,7/GB1-3/S1-4</td>
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<tr>
<td>2</td>
<td>Molecular visualization</td>
<td>GB9</td>
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<td>2-3</td>
<td>Protein structure prediction: template-based homology modeling and threading (Optimization fundamentals; Convex optimization; Sequence alignment as dynamic programming &amp; database search; Threading as linear programming and machine learning)</td>
<td>B4,6/GB30,31</td>
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<tr>
<td>3-5</td>
<td>Protein structure prediction: ab initio methods</td>
<td>GB8,32/S8,11,12</td>
</tr>
<tr>
<td></td>
<td>(Structure prediction as energy minimization; Energy function and conformational variables; Nonconvex optimization; Gradient-based and gradient-free algorithms; Ensemble algorithms; Great ideas for objective function, search space and constraints)</td>
<td></td>
</tr>
<tr>
<td>6-7</td>
<td>Protein flexibility and protein docking (Dimensionality reduction and optimization algorithms revisited)</td>
<td>D20-23/GB24-27</td>
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<tr>
<td>7-9</td>
<td>Protein function prediction from sequence, structure, and big data: Machine learning, classification, kernel, data integration, regression, diagnostics</td>
<td>B10/GB21,22</td>
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<tr>
<td>9-10</td>
<td>Computer-aided protein and drug design: Combinatorial optimization</td>
<td>GB39/D11</td>
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<tr>
<td>10-12</td>
<td>Biomolecular system modeling: Steady states and dynamics</td>
<td>Literature</td>
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<tr>
<td>13-14</td>
<td>Final project presentations</td>
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*Contents may subject to adjustment. Additional materials will be provided through eCampus.*
Attendance and Make-up Policies

Regular and punctual attendance to the lectures and recitations facilitates the effective implementation of a systematic study plan. Please consult student rule 7 for additional information: http://student-rules.tamu.edu/rule07.

Americans with Disabilities Act (ADA)

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

Academic Integrity

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

"An Aggie does not lie, cheat, or steal, or tolerate those who do."
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
Submit original form and attach a course syllabus.

Form Instructions

1. Course request type:
   - [ ] Undergraduate
   - [ ] Graduate
   - [ ] First Professional (DO, MD, JD, PharmD, DVM)

2. Request submitted by (Department or Program Name):
   Department of Teaching, Learning and Culture
   EDCI 715: Academic Writing for International Graduate Students

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

4. Catalog course description (not to exceed 50 words):
   Introduction to concepts central to graduate-level writing; designed specifically to benefit those whose native language is not English; exploration of writing productivity strategies and library-based research skills; development of clarity for written expression; improvement in command over textual, rhetorical and discursive conventions common in academic writing genres.

5. Prerequisite(s):
   Cross-listed with:
   Stacked with:
   Cross-listed courses require the signature of both departments.

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

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

8. Will this course be submitted to the Core Curriculum Council?
   [ ] Yes [ ] No
   [ ] P/F (CLM/D)

9. How will this course be graded?
   [ ] Grade
   [ ] S/U

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

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

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

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

13. Primary Course Title (excluding punctuation):

   EDCI 715
   Acad Writ Intl Grad

   Lect. Unit
   Other Unit
   CRN and Fund Code
   Admin Unit
   Acad. Year
   HIC Code

   3.00 0.00 0.00 3.00 1303010004 2804 16 17 0 0 3 6 3 2

   Approval recommended by:
   [Signature]

   Date

   Department Head or Program Chair (Type Name & Sign)

   Date

   (if cross-listed course)

   Submitted to Coordinating Board by:
   [Signature]

   Date

   Effective Date

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

Form Instructions
1. Course request type: □ Undergraduate □ Graduate □ First Professional (DDS, MD, JD, PharmD, DVM)
2. Request submitted by (Department or Program Name): Department of Teaching, Learning and Culture
   EDCI 716: Academic Writing for International Graduate Students
3. Course prefix, number and complete title of course:

4. Catalog course description (not to exceed 50 words):
   Introduction to concepts central to graduate-level writing; designed specifically to benefit those whose native language
   is not English; exploration of writing productivity strategies and library-based research skills; development of clarity for
   written expression; improvement in command over textual, rhetorical and discursive conventions common in
   academic writing genres.

5. Prerequisite(s):

   Cross-listed with: ________________________________

   Stacked with: ________________________________

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

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

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

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

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

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

   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.Ed., M.S., Ph.D. in EDCI

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

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

8. Prefix □ Course # □ Title (excluding punctuation)

   □ EDCI □ 715 □ Acad Writ Intl Grad

   □ Lclt. □ Lab □ Other □ SCH □ CIP and Fund Code □ Admin. Unit □ Acad. Year □ FICE Code
   □ 3.00 □ 0.00 □ 0.00 □ 3.00 □ 1303010004 □ 2804 □ 16 □ 17 □ 0 □ 0 □ 3 □ 6 □ 3 □ 2

   Approval recommended by: ________________________________

   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 Date

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

   Curricular Services – 07/14

   Date

   Date

   Date

   Date
Course title and number | EDCI 715: Academic Writing for International Graduate Students
---|---
Term (e.g., Fall 200X) | Spring 2017
Meeting times and location | TBA

Course Description and Prerequisites

Prerequisites: Graduate Classification (G7 or G8)

This course serves as an introduction to concepts central to graduate-level writing, designed specifically to benefit graduate students for whom English is not a native language. Students in this course will explore writing productivity strategies and library-based research skills, develop clarity of written expression (including grammar and sentence structure), and improve command over textual, rhetorical, and discursive conventions common in academic writing genres. Students will also apply the different tasks that are associated with the writing process (e.g., generating ideas, outlining a draft, revising for word choice, and critiquing research) to various writing situations, including biographical statements, emails, cover letters, book reviews, research statements, curriculum vitae, and a literature review. Students will learn to view writing as an iterative project benefiting from feedback at all stages. Completion of this course should prepare students for independent academic writing at the graduate level as they become members of their respective academic discourse communities.

Learning Outcomes

Course learning outcomes are grouped by subtopic. Upon successful completion of the course, students will:

**Genre Specific**
1. Identify the purposes, audiences, organization, and features of common academic genres (research article, book review, introduction, literature review, methodology section, etc.) in their respective fields;
2. Collect models of high-quality writing in specific genres to use as templates/starting points;
3. Vary appropriate writing style, vocabulary, and level of formality depending on genre;

**Research Skills**
4. Identify and efficiently use discipline-specific databases and other resources for library-based research (e.g., Refworks);
5. Locate, analyze, summarize, and synthesize appropriate print and electronic source materials;
6. Use appropriate conventions for documentation and incorporation of the ideas and words of others according to the standards of their disciplines in order to avoid committing plagiarism;

**Core Writing**
7. Use core writing techniques, including revising for clarity, cohesion, and concision across all genres;
8. Demonstrate control over tasks fundamental to academic writing, such as defining, describing procedures and processes, presenting and commenting on data, and use reliable and varied evidence to support claims;
9. Review and correctly use discipline-specific vocabulary and grammatical features commonly found in academic texts;
10. Use targeted editing techniques to improve self-editing and to provide useful feedback on papers they read, quickly and efficiently;

**Writing Process**
11. Recognize personal strengths and weaknesses within the writing process and identify strategies to improve areas of weakness;
12. Develop positive, sustainable writing habits to reduce stress and avoidance behaviors, and improve self-efficacy for writing;
13. Collaborate in a variety of contexts - one-on-one consulting, peer review, text-based interactions, and online collaborative contexts for improving their range of rhetorical prowess and networking through ongoing, individualized and collaborative mentorship;
**Written Products**
Complete a semester-long sustained research writing assignment that responds to a real and timely project in their graduate careers and at least three genre-analysis writing assignments, all of which demonstrating their critical understanding of each rhetorical situation.

**Instructor Information**

Name: Dr. Edie Cassell  
Telephone number: (512) 968-5313  
Email address: cassell@tamu.edu  
Office hours:  
Office location: EDCT 356

**Textbook and/or Resource Material**

**Required Texts**

**Required “Choice” Texts**
Students will select ONE of the following ELEVEN texts for completing the Book Review Writing Assignment. These texts will be introduced in class so that students can preview them. Students can select the text that best matches their goals and needs *


*If you would like to review a book that is NOT on this list for the assignment, you may seek approval from the instructors by providing a written, emailed rationale for your selection. If you would like to use an earlier edition of a listed text due to availability/price, please seek approval from instructors first, but such requests will likely be approved.

**Required Grammar Workshop**
This grammar study program will be a series of in-class workshops. Students will take a pre-test on the first two days of class, which consists of: Academic Vocabulary, Grammar & Usage, and a formal writing prompt. Then students will complete a post-test during the final exam period to measure gains.
**Required Articles - posted on eCampus**

*Note: Some articles will be read as in-class exercises and others will be homework assignments.*


**Grading Policies**

Rubrics will be distributed with written assignments. We are focusing equally on process/improvement in writing as well as final products.

A = 90 – 100%;  B = 80 – 89%;  C = 70 – 79%;  D = 60 – 69%;  F = Below 60%

**Attendance and Make-up Policies**

**University 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/unexcused absences and make-up work are located on-line at [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07).

**Class Policy**

- In the case of a planned class absence (e.g., travel to a professional conference), arrange beforehand with the instructor.

- In the case of unanticipated class absences (e.g., illness), if possible, please contact the instructor before class via email.

- To be granted an excused absence, provide documentation by the next class meeting. (See guidelines below for documentation). For a single missed absence, the Texas A&M University Explanatory Statement for Absence from Class form may be used. For additional health related absences, obtain confirmation from a health professional.

- Unexcused absences will result in a course reduction of up to one letter grade (10%) per unexcused absence.

**Excused Absences are in alignment with TAMU policy**

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. TAMU Explanatory Statement for Absence from Class form 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 non-acute medical service does not constitute an excused absence.

Arriving Late
Most classes will begin with writing time, so late students may interrupt the concentration of peers. As occasional lateness may be unavoidable, in those cases, simply come in as quietly as possible. If you have a particular cause of chronic lateness (e.g., you are coming from a job and traffic is unpredictable) please speak with us to make a plan of action. If a student has repeated tardies, and does not implement a reasonable plan to correct the problem, we reserve the right to apply the same penalties for additional tardy arrivals as for unexcused absences. In that case, 2 tardies will be considered 1 absence.

Course Topics, Calendar of Activities, Major Assignment Dates

<table>
<thead>
<tr>
<th>Points</th>
<th>Major Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>Writing and Reading Journal (weekly personal goal-setting record and progress tracking)</td>
</tr>
</tbody>
</table>
| 30     | Literature Review
   - Article Matrix (5), Introduction, Outline, References (5), Final Draft (15) |
| 10     | Book Review of Writing-Focused Book                                               |
| 15     | In class Writing Tasks (these represent other and more functional forms of academic writing which follow specific conventions and may include: Teaching Philosophy, Research Statement, Introduction of a Speaker, Formal Email Inquiry, Response to Journal Editor) |
| 10     | Grammar Workshop (certificate of completion)                                      |
| 10     | Class Participation                                                                |
| 100    | Total                                                                             |

CALENDAR OF ACTIVITIES

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Readings Due</th>
<th>Assignments Due</th>
</tr>
</thead>
</table>
| 1    | Introduction to course syllabus
   - Overview of academic writing                                    | Zinsser (2009) in class
   - Mahre (2009) in class                                             | WRJ          |
| 2    | An approach to academic writing
   - Establishing a healthy writing habit                             | Swales, Unit 1
   - Goodson, Preface, Ch. 1                                           | WRJ          |
| 3    | General-specific/Specific-general texts:
   - Definition and Organization
   - Literature Review introduction
   - Library Research (Dr. Elaine Thornton)                            | Swales, Unit 2
   - Goodson, Ch. 2
   - Randolph, 2009                                                   | WRJ          |
| 4    | Problem, process, and solution
   - Academic vocabulary and grammar                                    | Swales, Unit 3
   - Goodson, Ch. 3
   - Gastel, 1991                                                      | WRJ          |
| 5    | Writing introductions, purpose statements,
   - or specific aims sections                                          | Goodson, Ch. 7
   - Gopen & Swam, 1990                                                 | WRJ          |
   - Mahre (2000)                                                       |
| 6    | Data commentary-interpretation/discussion                           | Swales, Unit 4
   - Editing/Revising at the paragraph level                           | Goodson, Ch. 4
   - Article matrix (Step 1 of Literature Review)                      | WRJ          |
| 7    | Writing summaries
   - Academic writing types: reports, journal articles, books, grant proposals, memos, policies, letters of support, | Swales, Unit 5 | Introduction, outline, references (Step 2 of Lit Review) | WRJ |
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Readings Due</th>
<th>Assignments Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>Writing critiques</td>
<td>Swales, Unit 6</td>
<td>WRJ</td>
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<tr>
<td></td>
<td>Academic writing types: opinions, vitae, evaluations,</td>
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<td></td>
<td>research statements</td>
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<td>9.</td>
<td>Editing/revising at the sentence level</td>
<td>Goodson, Ch. 6 Goodson, 2001a, 2001b</td>
<td>Book review Draft Due WRJ</td>
</tr>
<tr>
<td>10.</td>
<td>Getting Feedback &amp; Establishing support for writing</td>
<td>Goodson, Ch. 5</td>
<td>Book review 2nd Draft WRJ</td>
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<tr>
<td>11.</td>
<td>Constructing a research paper I</td>
<td>Swales, Unit 7 Goodson, Ch. 8-11</td>
<td>Final Book Review WRJ</td>
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<td></td>
<td>Abstracts, methods, results, discussions</td>
<td></td>
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<tr>
<td>12.</td>
<td>Constructing a research paper II</td>
<td>Swales, Unit 8</td>
<td>Lit Review (First draft) WRJ</td>
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<tr>
<td></td>
<td>Publication process: responding to revisions &amp; editorship</td>
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<tr>
<td>13.</td>
<td>Choosing where to publish</td>
<td></td>
<td>Response to feedback WRJ</td>
</tr>
<tr>
<td></td>
<td>Responding to reviewers/feedback</td>
<td></td>
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<tr>
<td>14.</td>
<td>Writing as an intervention tool (e.g., writing for</td>
<td></td>
<td>Lit Review (Final draft) WRJ</td>
</tr>
<tr>
<td></td>
<td>learning) Academic writing ethics</td>
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<tr>
<td>15.</td>
<td>FINALS WEEK</td>
<td></td>
<td>Academic Vocabulary, Grammar &amp; Usage,</td>
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<td></td>
<td></td>
<td></td>
<td>and Writing Prompt Assessments</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WRJ</td>
</tr>
</tbody>
</table>

In accordance with responsive teaching, the course calendar and assignments are a tentative plan and not a binding contract. We aim to follow the provided plan. However, as the semester progresses, we reserve the right to make changes in assignments, readings and due dates based on our professional judgment. Any syllabus changes will be announced in class and announced on eCampus. Students are held responsible for all potential changes, even if absent from class on the day of the announcement.

**Late Work/Extensions**

Existensions MAY be granted (discretion of the course instructors) if requests are a) in writing and b) at least one week prior to the due date.

**Late Work:** With the exception of in-class writing assignments, homework and outside-of-class assignments are due at the beginning of class. Assignments must be turned in via eCampus. Certain assignments will also need to be brought (hard copy) to class. Work that is late will be reduced in grade at a penalty of up to one letter grade per day. Therefore a 10 point assignment that originally would have scored a 85% (8.5 points out of 10), if turned in 2 days late, would only earn a 65% (6.5 points out of 10). After 10 days past the due date, assignments will not be graded nor given feedback.

In case of a university excused absence (see TAMU Student Rule 7.1 regarding Absences) students will be provided an opportunity to make up any quiz, exam or other work that contributes to the final grade or provide a satisfactory alternative by a date agreed upon by the student and instructor. The make-up work must be completed in a timeframe not to exceed 30 calendar days from the last day of the initial absence.

**Other Pertinent Course Information**

**Class Expectations**

1. **Be ready to write:** Arrive at class with the tools that you need to write. Depending on your preference, you can bring paper & pen, tablet, or a laptop (just be sure to have a powercord!). There will be a portion of each class time devoted to writing and we will also be using this as a time to conference individually with students.

2. **Read** all of the assigned material and hopefully other non-assigned relevant reading. Reading good writing is essential for improving your own writing.

3. **Be present** in all classes – both by attending class, and by being mentally engaged in the class and working with peers (e.g., giving feedback).

4. **Have a voice.** Please address the instructors whenever there is a problem related to the class, or when you feel the need to clarify questions or to further explore topics.
5. **Turn off cell phones and email alerts. Do not text or check email, Facebook, or other personally distracting sources during class.** This distracts yourself and your peers who are trying to write. One of the principles of productive writing is developing the discipline to create a sacred time and space for writing that can’t be interrupted by anything less than an emergency.

**Format**
This is a face-to-face workshop style class. Multiple formats will be used including: writer’s workshop, lecture, modeling of writing, guided writing exercises, conferencing with professors, peer feedback and revision, and informal student presentations. eCampus will be used to distribute information and, as needed, for online discussions. The Grammar Workshop will be completed outside of class as an independent workshop plus online, self-paced tutorial. Additionally, approximately one grammar topic will be covered each class based on observed need and student requests.

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

**Academic Integrity**
For additional information please visit: [http://aggiehonor.tamu.edu](http://aggiehonor.tamu.edu)

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

**Plagiarism Statement**
As commonly defined, plagiarism consists of passing off as one’s own the ideas, words, writings, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. If you have any questions regarding plagiarism, please consult the latest issue of the *Texas A&M University Student Rules*, under the section “Scholastic Dishonesty.”
Within this course, we will discuss topics of citation, quoting, and paraphrasing in detail. For students publishing in education, consult the APA Manual, Edition 6 for proper citation practices. For general information on preventing plagiarism, See: [https://owl.english.purdue.edu/owl/resource/589/02/](https://owl.english.purdue.edu/owl/resource/589/02/)

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

4. Catalog course description (not to exceed 50 words):
Examination of various curricular issues and pedagogical implications encountered by schools and educators in the 21st century classroom; examination of various theoretical frameworks needed to address those issues and implications and advance student understanding.

5. Prerequisite(s):

Cross-listed with:

Stacked with:

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

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

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

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

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

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

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

13. Title (excluding punctuation)

EDCI 752 21 Century Integration Theory

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

George Cunningham
Chair, College Review Committee Date

Mark Zorani
Dean of College Date

Submited to Coordinating Board by:
Associate Director, Curricular Services Date

Date Effective Date

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

Form Instructions

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

2. Request submitted by (Department or Program Name): Department of Teaching, Learning and Culture
   EDCI 752: 21st Century Integration of Theory in Educational Settings

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

4. Catalog course description (not to exceed 50 words):
   Examination of various curricular issues and pedagogical implications encountered by schools and educators in the 21st century classroom; examination of various theoretical frameworks needed to address those issues and implications and advance student understanding.

5. Graduate classification; admission to Online EdD in EDCI
   Cross-listed with:  Stack with:
   Cross-listed courses require the signature of both department heads.

6. Is this a variable credit course?  □ Yes  ✔ No  If yes, from ______ to ______
   7. Is this a repeatable course?  □ Yes  ✔ No  If yes, this course may be taken ______ times.
   Will this course be repeated within the same semester?  □ Yes  ✔ No

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

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

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

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

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

13. Prefix  Course #  Title (excluding punctuation)
    EDCI  752  21 Century Integration Theory

    Lect.  Lab  Other  SCH  CIP and Fund Code  Admin. Unit  Acad. Year  FICE Code
    3.00  0.00  0.00  3.00  1303010004  2804  16  -  17  0 0 3 6 3 2

    Approval recommended by:
    Lynn Burbank  Department Head or Program Chair (Type Name & Sign)  Date
    George Cunningham  Chair, College/retweeted Committee  Date
    George Cunningham  Dean of College  Date
    Mark Zoran  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.
Course title and number | EDCI 752: 21st Century Integration of Theory in Educational Settings
Term | Summer 20XX
Meeting times and location | Online – E-Learning Class, consisting of 6 Modules to be completed during the Summer term.

Instructor Information
Name | James Laub, PhD
Email address | jlaub@tamu.edu
Office hours | By appointment, Skype, or email
| 312 Harrington Tower

Course Description and Prerequisites
This course is designed for graduate students who are working toward a doctoral degree in Curriculum and Instruction.

The course is designed for students to examine various curricular issues and pedagogical implications encountered by schools and educators in the 21st century classroom. Special attention will be given to the various theoretical frameworks needed to address those issues and implications and advance student understanding. Each topic draws attention to significant aspects of pedagogical processes and provides a distinctive means of understanding and managing organizational situations.

The course represents potential topics to be entertained during class sessions and is intended to provide students with a basic framework of pertinent issues to be addressed during the course. These topics and their positions in the schedule should be viewed as a general framework for our discussions and should not be considered firmly restricted to any specific class session. The course will use a collegial, inquiry-based format, allowing learners and the instructor to learn from one another.

The course goals aim to enhance teacher and curriculum leaders’ professional competence and skill set in discovering and solving problems leading to effective solutions to educational problems in school-based settings. Goals include:

1. analyze and evaluate 21st century educational programs, policies, institutions, and processes.
2. implement pedagogical and curricular changes to better serve all students effectively and equitably.
3. promote proactive and best practices to meet the needs of 21st Century schools.
4. identify best practices and research

Prerequisite: Graduate classification; admission to Online Ed.D. in EDCI

** Syllabus is intended as a guide, not a contract. If it is in the best interest of the class to make revisions, the instructor will do so. The instructor will notify students promptly of any revisions.**
Textbook and/or Resource Material

Required Texts:


Selected Article/Book Chapter Readings (additional resources will be developed)
(PDF files of articles will be posted in course content link on eCampus)


Grading Policies and Course Expectations

**Punctuality** – Class attendance and participation are essential for learning. *Only university-excused reasons with required documentation will allow you to make up missed work.*
http://student-rules.tamu.edu/rule07

*With the exception of the Comprehensive Final Exam and Discussion Forums, students may elect to complete Module Topic Analysis and Literature Review individually or in small groups.*

**Module Activities:**

**Online Discussion Forums** – A major goal of this class is for you to be able to articulate your understandings, in writing, publicly and critically about issues and ideas and to question (politely) the positions of others. The expectation is that students should be familiar with all assigned module readings and videos. When reading these materials, they should be prepared to discuss the authors’ most significant points; the practical relevance of the authors’ ideas; and personal questions, concerns, or disagreements regarding the authors’ ideas. After the topic has been introduced during the module period, you will be expected to find additional resources outside of class related to that topic. You will go to the Discussion Forum, describe in some detail the resource that you have read/obtained and link the source of the resource to your discussion entry. In your description, please note the reasons why you believe this resource is important to the week’s topic.

**Topic Analysis** –

Using the concepts and topics explored throughout the module, students will prepare and post a multi-media presentation concerning an educational topic that teachers and curriculum leaders may face in the 21st Century classroom. Students will analyze relevant data sources to identify and describe educational problem(s). Library research will be required. The presentation must address the following:

- What are the main points of topic?
- What are the implications for education?
- What is the relevant research on the topic?
- What are the problem(s) and/or issue(s)?
- Were any specific policies addressed?
- What potential solutions should be developed to address the problem/deficiency?
- Identify any possible ways to evaluate the proposed solutions.
- How would you implement any changes on your campus/district?
- Be specific and stay on point.

**Literature Review** –

As a companion to your presentation, a literature review must be completed. The literature review should be at least two (3) pages and follow APA 6th ed. style. The literature review is supposed to reflect your research about your topic. It should not just be a synopsis of existing work – you should also raise questions based on the work, e.g. possible extensions, counterarguments, etc. This review is practice in both summarizing and critiquing research work in print.

**Comprehensive Final Exam:**

Students will complete a comprehensive final exam, consisting of open-ended questions, focusing on all concepts and materials covered in class. The exam will be similar to the preliminary exam you will take at the end of your doctoral coursework, prior to advancing into the Record of Study phase. Answers must include cited references/sources and follow APA guidelines. Writing mechanics, grammar and scholarship will be a major part of the grading rubric.
Grading

Collaboration is encouraged; you will not be forced into some type of distribution, normal or otherwise. The grade is based upon (a) participation in module assignments and (b) final comprehensive examination

<table>
<thead>
<tr>
<th>Category</th>
<th>Specifics</th>
<th>Total Points for that Category</th>
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<tbody>
<tr>
<td>Module Assignments 1-5</td>
<td>Participation in module assignments: online discussion forums (5 @ 20 points each) topic analyses (5 @ 50 points each) literature reviews (5 @ 50 points each)</td>
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<tr>
<td>Comprehensive Final Exam – Module 6</td>
<td>Exam will be based on a culmination of readings and topics from Modules 1 - 5</td>
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Grade Distribution
900 -1000   A
800 - 899    B
700 - 799    C
600 -699     D
<600         F

Schedule of Readings, Topics and Assignments

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<th>Readings</th>
<th>Topics</th>
<th>Assignments</th>
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<td>Module 1</td>
<td>Ch 1 &amp; 2 – Wan &amp; Gut</td>
<td>Introduction – past and future implications</td>
<td>Discussion Board</td>
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<tr>
<td>June 2nd</td>
<td>Ch 1 &amp; 2 – Ravitch</td>
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<td>Literature Review</td>
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<td>Module 2</td>
<td>Ch. 3 &amp; 4 – Wan &amp; Gut</td>
<td>21st century students and schools</td>
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<td>Ch 3 – Ravitch</td>
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<td>Module 3</td>
<td>Ch 5 &amp; 6 – Wan &amp; Gut</td>
<td>Policy making and implementation</td>
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<td>Ch 4,5 &amp; 7 – Ravitch</td>
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<td>Module 4</td>
<td>Ch 7 &amp; 8 – Wan &amp; Gut</td>
<td>Needs assessment and reform; accountability</td>
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<td>Literature Review</td>
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<td>Ch. 9 &amp; 10 – Wan &amp; Gut</td>
<td>Curriculum development Implications</td>
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<td></td>
<td>Literature Review</td>
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<td>Module 6</td>
<td>Comprehensive Final Exam</td>
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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, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information visit http://disability.tamu.edu.

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 people, including those who are subjected to racial profiling, hate crimes, heterosexism, and violence. We insist that appropriate action is taken against those who perpetuate discrimination, violence, or vandalism. Texas A&M University is dedicated to non-discrimination on the basis of race, color, religion, gender, age, sexual orientation, domestic partner statue, national origin, or disability in employment, programs, and services. Our commitment to non-discrimination embraces the entire university community including faculty, staff, and students.

Honor Code

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

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. For additional information: http://aggiehonor.tamu.edu

Instructional Technology Services
004C Heldenfels Hall • Texas A&M University • 3002 TAMU
(979) 862-3977 • its@tamu.edu • http://itsinfo.tamu.edu

ONLINE COURSE EVALUATION SURVEYS are required (both mid-term & final)
Bibliography


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

From Instructions:
1. Course request type:
   [ ] Undergraduate  [x] Graduate  [ ] First Professional
   [ ] Professional

2. Request submitted by (Department or Program Name):
   Department of Finance
   FINC 606, Options, Futures and Other Derivatives

3. Course prefix, number and complete title of course:
   FINC 606 - Options, Futures and Other Derivatives

4. Course description (not to exceed 20 words):
   Understanding the four basic derivative contracts (forwards, futures, swaps, options) and how they function; pricing contracts via arbitrage; examination of derivatives using risk management; examination of material from the point of view of the arbitrageur and hedger, as opposed the speculator; examination of speculative trading strategies in the options market.

5. Prerequisite(s):
   N/A

   Cross-listed with:
   N/A

   Shared with:
   N/A

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

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

8. Will this course be repeated within the same semester?
   [x] Yes  [ ] No

9. Will this course be substituted in the Core Curriculum?
   [ ] Yes  [x] No

10. How will this course be graded?
    [x] Grade  [ ] S/U  [ ] P/F

11. This course will be:
    a. required for students enrolled in the following degree program(s) (e.g., M.F. in Finance)
       Master of Science in Finance
    b. an elective for students enrolled in the following degree program(s) (e.g., M.F. in Finance)
       N/A

12. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.
   [x] I certify that I have reviewed the FAQ for Expert/Counsel Basics for Distance Education (http://www.tamu.edu/~resource/computer/counsel-control-basics-for-distance-education).

13. Request Form:
   FINC 606 - Options, Futures and Other Derivatives
   Approval recommended by:

   Department Head or Program Chair (Type Name & Sign)  Date
   [Signature]
   1/13/16

   Chair, College Review Committee
   [Signature]
   1/20/16

   Dean of College
   [Signature]
   1/20/16

   Submitted to Coordinating Board by:

   Associate Director, Curricular Services
   [Signature]
   Date:

   Effective Date:

Questions regarding this form should be directed to Myra Williams at 979-8201 or myra.williams@tamu.edu.
Curricular Services - 07/14
Texas A&M University
Departmental Request for a New Course
Undergraduate + Graduate + Professional
- Submit original form and attach a course syllabus.

Form Instructions
1. Course request type: [ ] Undergraduate  [ ] Graduate [ ] First Professional (DMD, MD, JD, PharmD, DVM)
2. Request submitted by (Department or Program Name): Department of Finance
   FINC 606: Options, Futures and Other Derivatives
3. Course prefix, number and complete title of course: FINC 606 - Investments
4. Catalog course description (not to exceed 50 words):
   Understanding the four basic derivative contracts (forwards, futures, swaps, options) and how they function; pricing contracts via arbitrage; examination of derivatives using risk management; examination of material from the point of view of the arbitrageur and hedger, as opposed the speculator; examination of speculative trading strategies in the options market.

5. Prerequisite(s): [ ] N/A [ ] Cross-listed with: [ ] N/A
   Cross-listed courses require the signature of both department heads.

6. Is this a variable credit course? [ ] Yes [ ] No
   If yes, from _________ to _________

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

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

9. How will this course be graded? [ ] Grade [ ] S/U [ ] P/F (pass/fail)

10. This course will be:
    a. [ ] required for students enrolled in the following degree program(s) (e.g., B.A. in History)
       Master of Science in Finance
    b. [ ] an elective for students enrolled in the following degree program(s) (e.g., M.S. Ph.D. in geography)
       [ ] N/A

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

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

13. Prefix | Course # | Title (excluding punctuation)
       FINC  | 606     | Options, Futures and Other Derivatives

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Approval recommended by:

[Signature] 1/13/16
Department Head or Program Chair (Type Name & Sign) Date

Chair, College Review Committee

[Signature] 1/20/2013
Dean of College

[Signature] 1/20/2013

Submitted to Coordinating Board by:

Chair, GC or UCC

Date

Questions regarding this form should be directed to Sandra Williams at 845-8301 or sandra.williams@tamu.edu.
Curricular Services - 07/14
Syllabus

Texas A&M University
Finance 606
Mays College of Business
Options, Futures and Other Derivatives
Dr. Detlef Hallermann
Spring 2018

Time: TBD

Course Description and Objectives:

Finance 606 has three main objectives:
1. Understanding how derivatives and their markets function
2. Evaluation/pricing of basic derivative securities
3. Managing risk using derivative contracts

There are four basic derivative contracts: forwards, futures, swaps, and options. By the end of the course, students will have a basic understanding of how these securities function, will learn how these contracts are priced via arbitrage, and will examine how derivatives can be used in risk management. Even though derivative contracts can be and are frequently used to speculate, this course is not designed to analyze how investors obtain and use information to forecast price changes for these instruments. Hence, for most of this course, will examine the material from the point of view of the arbitrageur and hedger, as opposed the speculator. However, we will spend about a week examining speculative trading strategies in the options market.

Prerequisites:

Students enrolled in Finance 606 must be MSF students who have completed FINC 602.

Required Material:

The required text is


Scholastic Dishonesty:

AGGIE CODE OF HONOR: “Aggies will not lie, cheat or steal, nor tolerate those that do”


It is the responsibility of students and instructors to help maintain scholastic integrity at the university by refusing to participate in or tolerate any scholastic dishonesty. Texas A&M is known nationally as a university deep in tradition and integrity. Hence, I will operate under the assumption that scholastic dishonesty does not exist at Texas A&M. Therefore, any type of suspected misconduct will be investigated fully and violations will not be tolerated, as they will be prosecuted to the fullest extent possible.

Please note that as commonly defined, plagiarism is presenting the ideas, words, writings, etc. of another as your own. Hence, if you copy the work of another person and turn it in as your own you have committed plagiarism. Plagiarism is considered one of the worst academic sins, as
it destroys the trust among colleagues without which research and ideas cannot be safely communicated.

Classroom Care:

It is the policy of the college not to allow food, beverages, pets, or the use of tobacco products in the Wehner classrooms. Thank you in advance for your observance of this policy.

Teaching Style:

The instructional style will primarily consist of lectures derived from my notes based upon the text. The lectures are designed to be interactive. Classroom participation is expected and is therefore highly encouraged. Please feel free to ask questions, make observations, or share some of your (relevant) real world experiences. It is my intention to make the classroom environment somewhat informal and relaxed.

In addition, I expect you to be able to follow the pricing and arbitrage proofs as well as understand the intuition behind the problems and how the problems are worked. If you are unsure about a topic PLEASE ASK QUESTIONS. If no one is asking questions, I can only assume that everyone understands the material. If that is the case, I am sure there won’t be any problems with my asking the class questions.

Attendance and Classroom Participation:

I expect you to attend class regularly, in accordance with university policy. You are responsible for any material covered, amendments to the syllabus, or announcements made in class, whether you are present or not. I will send around a seating chart on the third day of class. The sole purpose of the seating chart is to assist me with your names.

While I realize that many of you are currently searching for a job, please try to minimize the class time missed due to interviews, as you are responsible for any and all material covered.

If you miss an exam or fail to turn in homework without a valid, documented excuse, you will receive a grade of zero. The exam dates given elsewhere in this syllabus will not be changed. If you do not take an exam on the scheduled date, then you are “responsible for providing satisfactory evidence to the instructor to substantiate the reason for absence.” There are eight reasons that absences are considered excused. These are listed in Texas A&M University Regulations and on the TAMU web site at http://student-rules.tamu.edu/rules7.htm. Please read these reasons. Be ready to provide ample satisfactory written evidence demonstrating the reason for your absence. Please be advised that according to University policy you only have 24 hours to contact me after missing a graded assignment in order to ensure that you maintain you fully rights under the policy. Arrange your job interviews, and any necessary travel, on dates other than those on which we have exams.

In addition if the excused absence is a pre-arranged absence, it is better to ask permission than forgiveness. Stated another way, I am more inclined to work with you to preemptively take care of a problem (hence greater leniency) than to fix a problem after it has occurred.

Please keep classroom disturbances to a minimum. I will arrive on time for class and I expect you to do the same. I reserve the right to adjust your grade as I see fit for repeated tardiness. In addition, please turn off all cell phones and pagers before you come into class. The rule of thumb is that if a phone rings in my class, I get to answer it. Obviously, we can make exceptions for emergency situations; just apprise me of the situation before class begins.

CELL PHONES: If your cell phone rings in class, I have the right to answer it. IF you are texting enough for me to notice, I have the right to tell you to put your phone away.
Web Site for the Class:

Each set of lecture notes is available from the (evolving) class web site at the eCampus website (www.ecampus.tamu.edu). Students are required to subscribe to the eCampus website for this course. All homework, homework solutions, class notes, sample exams, grades and any other course information will be posted on the eCampus website.

You are expected to download and print a copy of the class notes from the eCampus website. In either case, you are also expected to have reviewed the lecture notes before each class period. In addition to this document, the web site contains each of the homework assignments, your grades to date, sample exam questions, and other relevant course material.

Homework Assignments:

Homework assignments are for the purpose of understanding the material. They will not be graded. HOWEVER, you cannot expect to perform well on the exam without having performed the homework assignment.

Grading:

There will be four closed book examinations for the course as outlined below. The exams will be during class time and during the final exam period as assigned by the university. The first three exams are non-cumulative while the final exam is cumulative. Students are able to drop one of the four exams (students may drop the final).

When a test or graded assignment is returned to you, you have one week from the date of its return to bring to my attention any request for a grade change. All re-grade requests must be fully explained in writing and must be signed by the student. In addition, to the signed request, the original paper must accompany the request for a re-grade. After the one-week deadline has passed, no further grade changes will be made for that particular test or assignment. The purpose of this deadline is not to discourage grade changes, but to assure that any necessary changes are promptly made and to allow you as the student to have an accurate and current indication of your performance in the class. Please note that in the case of excessive request for re-grade, the instructor reserves the privilege of re-grading the entire paper/exam.

Your final grade will be determined by the following weights:

- Exam 1: 33%
- Exam 2: 33%
- Exam 3: 33%
- Final Exam: 33%

Students with Special Needs:

In addition, if you have any special needs please inform me either after the first day of class or during my office hours for the first week of class. Please do not assume that I will notice your special needs. If you believe you have a disability requiring an accommodation, please contact the Department of student Life, Services for Students with Disabilities in Cain Hall, Room B118, or call 845-1637.
Schedule of Classes:

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<th>Week</th>
<th>Chapter</th>
<th>Topic</th>
<th>Assignment Due</th>
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<td>Syllabus</td>
<td>eCampus</td>
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<td>Chapter 3-4</td>
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**FINAL EXAM**

Class Time: TBD, Wehner 187

**Contact Information:** Dr. Detlef Hallermann
Office: Wehner 360
Office Hours: TBD & by appointment with a confirmation email.
Office Telephone: 979 845-8963
Department of Finance Telephone: 979 845-3514
Fax: 979 845-3884
Email: dhallermann@mays.tamu.edu

TA: TBD
Email: TBD
Hours: TBD
Texas A&M University
Departmental Request for a New Course
Undergraduate □ Graduate □ Professional □
Submit original form and attach a course syllabus.

Form Instructions

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

2. Request submitted by (Department or Program Name):
   □ Mays Business School / Professional MBA Program
   FINC 651 Financial Valuation

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

4. Catalog course description (not to exceed 50 words):
   Theory and application of various approaches to valuation; measuring and managing the value of corporations;
   principles of value creation; fundamental valuation methodology; application of value creation principles to managerial
   problems; special cases and complex valuation issues.

---

5. Prerequisite(s):
   Cross-listed with:
   Stacked with:

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

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

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

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

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

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

<table>
<thead>
<tr>
<th>Class</th>
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<tr>
<td>FINC</td>
<td>651 Financial Valuation</td>
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<th>Major Year</th>
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</tr>
</tbody>
</table>

Approval recommended by:

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

Chair, College Review Committee Date

Dean of College Date

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 – 07/14
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
Submit original form and attach a course syllabus.

Form Instructions
1. Course request type: □ Undergraduate  ✔ Graduate  □ First Professional (DDS, MD, JD, PharmD, DVM)
2. Request submitted by (Department or Program Name): Mays Business School / Professional MBA Program
   FINC 651 Financial Valuation
3. Course prefix, number and complete title of course:

4. Catalog course description (not to exceed 50 words):
Theory and application of various approaches to valuation; measuring and managing the value of corporations; principles of value creation; fundamental valuation methodology; application of value creation principles to managerial problems; special cases and complex valuation issues.

5. Prerequisite(s): Cross-listed with: Stacked with:

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

6. Is this a variable credit course?  ✔ Yes  □ No  If yes, from 1 to 3
7. Is this a repeatable course?  ✔ Yes  □ No  If yes, this course may be taken _____ times.
   Will this course be repeated within the same semester?  ✔ Yes  □ No
8. Will this course be submitted to the Core Curriculum Council?  ✔ Yes  □ No
9. How will this course be graded?  ✔ Grade  □ S/U  □ P/F (CLMD)
10. This course will be:
   a. required for students enrolled in the following degree programs(s) (e.g., B.A. in history)
      MBA - Professional MBA Program
   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)

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

13. Prefix | Course # | Title (excluding punctuation)
        | FINC | 651 | Financial Valuation
        +-------+-----+----------------------------------
        | Lect. | Lab | Other | SCH | CIP and Fund Code | Admin. Unit | Acad. Year | FICE Code |
        | 3.00  | 0.00| 0.00  | 3.00| 5208010016        | 1110        | 17 -       | 18 0 3 6 3 2 |
        | 3/3/16|     |       |     |                  |             |            |           |
        | B. W. |     |       |     |                  |             |            |           |
        | 3/2/2016 |     |       |     |                  |             |            |           |
        | 3/3/16 |     |       |     |                  |             |            |           |
        | B. W. |     |       |     |                  |             |            |           |

Approval recommended by:
Department Head or Program Chair (Type Name & Sign) Date
Chair, College Review Committee Date
Dean of College Date

Submitted to Coordinating Board by:
Associate Director, Curricular Services Date
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 – 07/14
Class Meets:    CityCentre
Class Website:  http://ecampus.tamu.edu
Instructor:     Shane Johnson
Office Hours:   TBD
Phone:          979.845.4714

Course Description and Learning Objectives
Finance 651 is an intensive course covering three different approaches to valuation: intrinsic valuation, relative valuation, and option pricing valuation. These methods will be applied to various types of real-world companies—public and private, small and large, domestic and international, start-up and established—by building Excel models and using the models to identify sources of value creation. Students who successfully complete the course will be able to select and implement an appropriate valuation strategy for any type of business and use the results of their analysis to prescribe a course of action to maximize corporate value.

Prerequisites
Enrollment in Professional MBA Program at Texas A&M University
FINC 612
You also should be quite comfortable with computer applications, especially Excel.

Required Material

“Corporate Finance”, 3e, by Berk and DeMarzo. (Publisher: Prentice Hall. Published in 2014.)

Also, lecture notes and external course references will be available on the course website.

The class project requires access to Microsoft Excel.

Optional Material

The following books may be useful reference resources.


Academic Integrity

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

The Aggie Honor Code affirms that honesty, truthfulness, trust, fairness, respect, moral conduct, and individual responsibility guide the conduct of the Texas A&M community. Commitment to these ideals produces in each of us integrity, which fosters the will to make difficult choices, to accept responsibility for and consequences of our actions, even at great personal cost.

It is the responsibility of both students and instructors to maintain academic integrity by refusing to participate in or tolerate academic misconduct. Committing any of the following acts constitutes academic dishonesty. This list is not exclusive of any other acts that may reasonably be said to constitute scholastic dishonesty.

Cheating: Intentionally using or attempting to use unauthorized materials, information, notes, study aids, or other devices or materials in any academic exercise.

Complicity: Intentionally or knowingly helping (or attempting to help) another to commit an act of academic dishonesty.

Plagiarism: Failing to give appropriate credit for or presenting as your own another person’s words, ideas, results, or processes.

Multiple Submission: Submitting substantial portions of the same work (including oral reports) for credit more than once without authorization from the second instructor.

Falsification: Changing or omitting data or results, or manipulating research materials, equipment, or processes such that the research is not accurately represented in the research record.

Fabrication: Recording or reporting made up data or results, or submitting fabricated documents.

I will proactively promote academic integrity and adhere to the Aggie Honor System Office’s policies pertaining to reporting and adjudication of violations of the Aggie Honor Code. For detailed definitions of academic misconduct and complete Honor Council Rules and Procedures, please visit http://aggiehonor.tamu.edu.

Attendance

I expect you to attend class regularly, in accordance with university policy. I will routinely check attendance. You will be held responsible for any assignments, material covered, amendments to the syllabus, or announcements made in class, whether you are present or not.

If you miss an exam without a valid, documented university excuse, you will receive a grade of zero on that exam. According to university policy, there are exactly eight types of excused absences. These are listed in Texas A&M University Regulations and on the TAMU website at http://student-rules.tamu.edu/rule07:

1) Participation in an activity appearing on the university authorized activity list. (see List of Authorized and Sponsored Activities).

2) Death or major illness in your immediate family.

3) Illness of a dependent family member.

4) Participation in legal proceedings or administrative procedures that require your presence.

5) Religious holy day. (See Student Rules Appendix IV).

6) Injury or illness that is too severe or contagious for you to attend class.
a) For injury or illness that requires you to be absent from classes for three or more business days, you should obtain a medical confirmation note from your medical provider. The Student Health Center or an off-campus medical professional can provide a medical confirmation note for you. The medical confirmation note must contain the date and time of the illness and medical professional’s confirmation of needed absence.

b) Confirmation is required for injury or illness that causes you to be absent from class for less than three business days. Illness confirmation may be obtained by one or both of the following methods:

- Texas A&M University Expedited Statement for Absence from Class form available at [http://attendance.tamu.edu](http://attendance.tamu.edu) (if you do not see a doctor).

- Confirmation of visit to a health care professional affirming date and time of visit.

c) An absence for a non-acute medical service does not constitute an excused absence.

7) Required participation in military duties.

8) Mandatory admission interviews for professional or graduate school which cannot be rescheduled.

9) Mandatory participation as a student-athlete in NCAA-sanctioned competition.

10) In accordance with Title IX of the Educational Amendments of 1972, Texas A&M University shall treat pregnancy (childbirth, false pregnancy, termination of pregnancy and recovery therefrom) and related conditions as a justification for an excused absence for so long a period of time as is deemed medically necessary by the student’s physician. Requests for excused absence related to pregnancy should be directed to the instructor; questions about Title IX should be directed to the University Title IX Coordinator.

**Makeup Policy**
You can make up an exam only if an absence is excused. To be considered excused, you must notify me in writing (acknowledged e-mail message is acceptable) prior to the date of absence, and provide appropriate documentation for the absence. In cases where advance notification is not feasible (for example, accident or emergency) you must provide notification by the end of the second working day after the absence, including an explanation of why notice could not be sent prior to the class. The fact that these are university-excused absences does not relieve you of responsibility for prior notification and documentation. Failure to notify and/or document properly may result in an unexcused absence. Falsification of documentation is a violation of the Honor Code.

**Grading**
Course grades for Finance 651 will be determined as follows.

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Take Home Midterm Exam</td>
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<tr>
<td>Attendance</td>
<td>10%</td>
</tr>
<tr>
<td>Class Participation</td>
<td>15%</td>
</tr>
<tr>
<td>Take Home Final Exam</td>
<td>40%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Like exams, the maximum possible scores for attendance and class participation is 100 points. Your class participation score will be based on an assessment of your level of preparedness for each class, as indicated by the quality of your responses to questions directed to you in class (rated either satisfactory or unsatisfactory). Even incorrect responses can demonstrate a satisfactory level of preparation. Your class participation score will
Unexcused absences will lower your attendance score:

<table>
<thead>
<tr>
<th>Number of Unexcused Absences</th>
<th>Attendance Score</th>
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<tbody>
<tr>
<td>0 or 1</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>3 or more</td>
<td>0</td>
</tr>
</tbody>
</table>

Course grades will follow the standard 90/80/70/60 scale:

<table>
<thead>
<tr>
<th>Points Collected (PC)</th>
<th>Course Grade</th>
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<tr>
<td>PC ≥ 90</td>
<td>A</td>
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<tr>
<td>90 &gt; PC ≥ 80</td>
<td>B</td>
</tr>
<tr>
<td>80 &gt; PC ≥ 70</td>
<td>C</td>
</tr>
<tr>
<td>70 &gt; PC ≥ 60</td>
<td>D</td>
</tr>
<tr>
<td>60 &gt; PC</td>
<td>F</td>
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</table>

Graded assignments must be turned in before the deadline to be eligible for full credit. Late assignments are subject to the following penalties:

<table>
<thead>
<tr>
<th>If the assignment is submitted...</th>
<th>Penalty</th>
<th>Maximum Possible Score</th>
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<tr>
<td>before deadline</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>1st 24 hours after deadline</td>
<td>20%</td>
<td>80%</td>
</tr>
<tr>
<td>2nd 24 hours after deadline</td>
<td>40%</td>
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<td>3rd 24 hours after deadline</td>
<td>60%</td>
<td>40%</td>
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<tr>
<td>4th 24 hours after deadline</td>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>5th 24 hours after deadline</td>
<td>100%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Even if you have a documented excused absence, please arrange to submit your assignment by its due date unless an emergency situation makes this impossible. Late assignments accompanied by a documented university excuse will not be subject to penalty.

When any graded work is returned to you, you have one week from the date it is returned to bring any grading errors to the instructor’s attention. After the one-week deadline has passed, no further grade changes will be made for that particular item. The purpose of this deadline is not to discourage grade changes due to errors, but to ensure that any necessary ones are promptly made.

**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).
# Course Schedule

## The Value Creation Process

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction and Overview</td>
</tr>
<tr>
<td>1</td>
<td>Approaches to Valuation: Intrinsic Valuation, Relative Valuation, Option-Based Valuation</td>
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## Intrinsic Valuation

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
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<tbody>
<tr>
<td>2</td>
<td>Applying Intrinsic Valuation Principles: M&amp;A in Wine Country Simulation</td>
</tr>
<tr>
<td>2</td>
<td>The Cost of Equity Capital: The Risk-Free Rate and Equity Risk Premiums</td>
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<td>3</td>
<td>The Cost of Equity Capital: Using Beta to Estimate Risk Premiums</td>
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<tr>
<td>3</td>
<td>The Cost of Equity Capital: Estimating Betas</td>
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<tr>
<td>4</td>
<td>Forecasting Cash Flows: Dividends, Earnings, and Free Cash Flow to Equity (FCFE)</td>
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<tr>
<td>4</td>
<td>Forecasting Cash Flows: Taxes, CAPEX, and Working Capital</td>
</tr>
<tr>
<td>5</td>
<td>Forecasting Cash Flows: Historical and Estimated Earnings Growth</td>
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<tr>
<td>5</td>
<td>Forecasting Cash Flows: Growth Drivers and the Role of Reinvestment</td>
</tr>
<tr>
<td>6</td>
<td>Forecasting Cash Flows: Terminal Value</td>
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<tr>
<td>6</td>
<td>Forecasting Cash Flows: Research and Development, Corporate Governance</td>
</tr>
<tr>
<td>7</td>
<td>Forecasting Cash Flows: Start-up Firms and Young Companies</td>
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<tr>
<td>7</td>
<td>Forecasting Cash Flows: Distressed Companies</td>
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## Relative Valuation

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
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<td>8</td>
<td>Relative Valuation Versus Intrinsic Valuation</td>
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<td>8</td>
<td>PE and PEG Ratios</td>
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<td>9</td>
<td>Enterprise Value Multiples</td>
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<td>9</td>
<td>Price to Book Ratios, Revenue Multiples, and Forward Multiples</td>
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<td>10</td>
<td>Choosing A Multiple</td>
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## Option Based Valuation

<table>
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<th>Session</th>
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<td>11</td>
<td>Principles of Option Pricing and Real Options</td>
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<td>12</td>
<td>The Option to Delay, Patents as Options</td>
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<tr>
<td>13</td>
<td>Valuing a Natural Resource Company: Option to Expand and Option to Abandon</td>
</tr>
<tr>
<td>14</td>
<td>Valuing Aggregate Equity as an Option</td>
</tr>
</tbody>
</table>
be equal to 100, times the percentage of satisfactory ratings received as a percentage of total ratings. Participation ratings will be updated on the course website after each class meeting.
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
• Submit original form and attach a course syllabus. •

Form Instructions
1. Course request type: □ Undergraduate  □ Graduate  □ First Professional (DDS, MD, JD, PharmD, DVM)
2. Request submitted by (Department or Program Name): Department of Nutrition and Food Science
3. Course prefix, number and complete title of course: FSTC 623: Nanotechnology in Food Processing

4. Catalog course description (not to exceed 50 words):
The course will discuss fundamental and applied knowledge related to nanoscale systems and technologies utilized in processing of foods; topics include nanoscale physico-chemical properties of foods, applications, manufacture, and analysis of nanotechnologies for food processing and preservation, and relevant industrial and regulatory food nanotechnology-associated aspects

5. Prerequisite(s): FSTC 312, 313, or 315 or AGSM 315 for equivalent coursework or by approval of instructor
Cross-listed with: BAEN 823
Stacked with: 

6. Is this a variable credit course? □ Yes  □ No If yes, from _________ to _________
7. Is this a repeatable course? □ Yes  □ No If yes, this course may be taken _________ times.
Will this course be repeated within the same semester? □ Yes  □ No
8. Will this course be submitted to the Core Curriculum Council? □ Yes  □ No
9. How will this course be graded? □ Grade  □ S/U  □ P/F (CLMD)
10. This course will be:
a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)

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

MAgr FSTC, MS FSTC, MS NUTR, PhD FSTC, PhD NUTR

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

13. Prefix Course Title (excluding punctuation)

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Course</th>
<th>Title (excluding punctuation)</th>
</tr>
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<tbody>
<tr>
<td>FSTC</td>
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<td>Nanotechnology in Food Processing</td>
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<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>Approval recommended by:</td>
<td>□ Grade</td>
</tr>
<tr>
<td>Boon Chaw</td>
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<table>
<thead>
<tr>
<th>Description</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>Stephen W. Searcy</td>
<td>Date</td>
</tr>
</tbody>
</table>

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

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

2. Request submitted by (Department or Program Name):  
   Department of Nutrition and Food Science

3. Course prefix, number and complete title of course:  
   FSTC 623. Nanotechnology in Food Processing

4. Catalog course description (not to exceed 50 words):  
   This course will discuss fundamental and applied knowledge related to nanoscale systems and technologies utilized in processing of foods; topics include nanoscale physico-chemical properties of foods, applications, manufacture, and analysis of nanotechnologies for food processing and preservation, and relevant industrial and regulatory food nanotechnology-associated aspects

5. Prerequisite(s):  
   FSTC 312, 313, or 315 or AGSM 315 (or equivalent coursework); or by approval of instructor

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

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

8. Will this course be repeated within the same semester?  
   □ Yes  □ No  
   If yes, ___ times

9. Will this course be submitted to the Core Curriculum Council?  
   □ Yes  ☑ No  
   P/F (CLMD)

10. How will this course be graded:  
    ☑ Grade  □ S/U

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

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

13. Prefix  
    Course #  
    Title (excluding punctuation)

    FSTC 623  
    Nanotech in Food Proc

    Lec.  Lab  Other  SCH  CIP and Fund Code  Admin. Unit  Acad. Year  FICE Code  
    3.00  0.00  0.00  3.00  0110020005  0433  17  -  18  0  0  3  6  3  2

   Approval recommended by:  
   Boon Chew  2/7/16

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

   Stephen W. Seary  2/7/16

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

   (if cross-listed course)  

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

   [Signature]

   Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
   Curricular Services – 07/14
BAEN/FSTC 689
Nanotechnology in Food Processing
(3 credit hours)
Fall 2016

Instructors: Carmen Gomes, Ph.D.
Assistant Professor, Department of Biological & Agricultural Engineering
303B Scoates Hall
845.2455
carmen@tamu.edu

Matthew Taylor, Ph.D.
Assistant Professor, Department of Animal Science
310-C Kleberg Center
862.7678
matt_taylor@tamu.edu

Office Hours: By appointment.

Course Description & Prerequisites:

This course will discuss fundamental and applied knowledge related to nanoscale systems and technologies utilized in processing of foods. Covered topics include: (1) nanoscale physico-chemical properties of foods; (2) applications, manufacture, and analysis of nanotechnologies for food processing and preservation, and; (3) relevant industrial and regulatory food nanotechnology-associated aspects.

Prerequisites: FSTC 312, 313 (or equivalencies), AGSM/FSTC 315 (or equivalency), or by approval of instructor.

Class Times and Location:
TR 9:35 – 10:50 a.m. RICH 1009

Course Web Site
http://ecampus.tamu.edu/

Course Objectives:

1. Provide sound fundamental and applied understanding of the development, use, and analysis of nanotechnologies for application in food processing.
2. Introduce students to regulatory, industrial, and economic aspects surrounding the use of nanotechnology in food systems.
3. Explore and discuss current and future developments of nanotechnology for use in food processing.
4. Prepare students for exposure to engineered nanotechnologies for use in food processing and preservation.
5. Introduce students to cutting edge research and expertise in food nanotechnology via: (i) assigned readings from the pertinent scientific literature; (ii) guest lectures by subject matter experts, and (iii) site visits to industrial and research facilities engaged in ongoing development of nanotechnology for application in food systems.

Course Learning Outcomes:

At the completion of the course, students should be able to:

1. Identify and describe significant physico-chemical properties of engineered food nanotechnologies, incorporating understanding of appropriate methods of analysis and impact of manipulation of these properties on stability and functionality.
2. Identify the significant regulatory limitations and mechanisms employed in the evaluation of nanotechnologies for application in foods, being able to describe processes by which nanotechnologies are developed and submitted for approval for use in food products.
3. Compare and contrast differing engineered nanotechnologies within an application grouping (e.g., food antimicrobial encapsulation technologies) with regards to strengths and weaknesses, identifying key strengths/weaknesses as related to food industry concerns relevant to that grouping.
4. Discuss the relevant and appropriate industrial processes by which differing nanotechnologies are formulated, analyzed, and manufactured for large-scale use in food processing.
5. Synthesize knowledge gained through the course in order to develop a novel food nanoscale technology, employing learning to describe its design, function, appropriate characterization, and essential testing/analysis for submission for approval for use.

Assignment and Composition of Course Grade:

Grade Composition:

<table>
<thead>
<tr>
<th>Component</th>
<th>Course Weight/Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Exams (2 @ 21.5 % each)</td>
<td>43 %</td>
</tr>
<tr>
<td>Research Proposal &amp; Oral Presentation</td>
<td>30 %</td>
</tr>
<tr>
<td>Homework Assignments (5 @ 5 % each)</td>
<td>25 %</td>
</tr>
<tr>
<td>Short assignments (2 @ 1% each)</td>
<td>2 %</td>
</tr>
</tbody>
</table>

Grade Assignment:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>90 - 100 %</td>
</tr>
<tr>
<td>B</td>
<td>80 - 89 %</td>
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<tr>
<td>C</td>
<td>70 - 79 %</td>
</tr>
<tr>
<td>D</td>
<td>60 - 69 %</td>
</tr>
<tr>
<td>F</td>
<td>&lt;60 %</td>
</tr>
</tbody>
</table>
Textbook:

There is no required textbook for the class. Instructors will hand out learning materials as needed, and students are responsible for gathering additional information and material as necessary to complete course assignments, exams, etc.

Format:

This course will include traditional lectures, discussion, problem-solving activities, and site visits to industrial and research facilities. It is essential to prepare for class by reading assigned materials, to work on homework and short assignments, to attend daily, and to participate in class discussions and activities to do well in the course.

Exams:

There will be two in-class exams (75 minutes) during the semester. Each will contain material covered in lecture, reading assignments and homework. These may include both problems to solve and short answer/multiple choice questions. Exams will be based on individual work and will be closed book and closed notes.

Make-up exams will be given only for those having a university excused absence. See student rule 7. http://student-rules.tamu.edu/rule07
Make-up exams will be scheduled in consultation with the instructor.

Research proposal & oral presentation:

Students will be expected to design a novel nano-engineered material for a food application. More details will be provided later. Students will prepare a research proposal on the project topic they select. Research proposal will be graded based on technical content, paper format based to scientific journal guidelines, references used, and written quality.

Students will give an oral Power Point presentation of their work during the last week of classes. Presentations should last from 10-15 minutes. Presentations will be graded by the class instructor and peers based on quality of the slides, technical content, and delivery. Peers will provide constructive criticism by filling out a survey after the presentations.

Homework and short assignments:

Homework will be assigned periodically and must be completed by the start of the class period’s due date. Restate the problem, then work the problem in a neat, logical manner and box final answers (include units). Cite references following scientific journal format. Staple multiple pages and include your name and date at the top of the first page. Short assignments will consist of short questionnaires on topics covered in class and one-page reports on site visits and guest lectures. Short assignments must be completed by the start of the following class period.

No make-up homework and short assignments will be given. For any assignment missed due to a university excused absence, that assignment will not be included in calculating the final assignment grade. No late homework and short assignments will be accepted. See student rule 7. http://student-rules.tamu.edu/rule07
Absences
You must notify the instructor in advance if possible of any absence by sending an email stating the date and reason for the absence. If you are absent for up to two class periods because of illness or injury, an email message stating the reason for absence will be sufficient. If you are absent from more classes because of illness or injury, verification of a visit to a health care professional may be required. See Student Rule 7. http://student-rules.tamu.edu/rule07 regarding excused absences.

Course Policies:

- Consistent and punctual attendance is expected of all students in order to help ensure maximal learning for enrolled students. Phones should be silenced so as to prevent possible distraction for other students and instructors.

- Exams will be completed both during class session and via take-home formats. Instructor expectations will be discussed prior to exam dissemination, but all material discussed or assigned will be considered for development of exam questions.

- Throughout the semester, instructors will work to arrange guest lectures by experts from academia and industry, either in person or by phone/video conference. Students are to attend these sessions and record notes from the meeting, as these persons will contribute to the learning of enrolled students.

- Instructors will work to arrange at least one off-campus trip to meet and tour facilities of a firm actively engaged in nanotechnology development and fabrication. This tour will likely require a full day and students will be responsible for arranging their schedules in order to attend the trip. Students concerned about attending the trip due to teaching or research responsibilities must inform instructors at least one week prior to departure so that an alternative assignment may be arranged for the student to complete.

Americans with Disabilities Act 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, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit http://disability.tamu.edu.

Academic Integrity Statement

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

www.tamu.edu/aggiehonor
Lecture Modules

I. Physico-Chemical Nanoscale Properties of Foods
   a. Food nanotechnology: definitions, significance of field, brief historical perspectives review
   b. Processes impacting foods at nano-scale
   c. Seeing and analyzing foods at the nano-scale
   d. Impacts of nano-structure and processes on food quality, processing, safety, and sensory properties

II. Development, application, and analysis of nano-engineered technologies for food
    a. Overview of nanotechnology applied in food systems/industry
    b. Processing and quality applications (emulsion stabilization, delivery of colors, nutrients, bioactives, volatile flavors/odors)
    c. Preservation of safety (chemical/toxicological, microbiological) of foods (antimicrobial delivery systems, biosensor, nanocomposites/active packaging)
    d. Analysis of nanotechnology: perspectives and methods.
       i. Thermodynamic (Calorimetric)
       ii. Chemical (Atomic, FTIR, UV/Vis Spec, Chromatography, X-ray diffraction)
       iii. Physical/Rheological (Microscopy, Size, Flow/Viscosity, Surface tension/Contact angle)
       iv. Electrophoretic (Surface charge/zeta-potential)
    e. Specific food nanotechnology applications and systems
       i. Nanocomposites and active packaging
       ii. Encapsulation systems (Liposomes, micelles, polymeric, microemulsions)
       iii. Nano-scaled biosensors

III. Industrial and regulatory aspects
    a. Manufacturing and scaling of industrial nano-fabrication, quality assurance
    b. Biocompatibility with food, allergenicity of nano-materials, biodegradation
    c. Regulatory concerns:
       i. Micro vs. nanoscale components and novel toxicity concerns
       ii. Submission of innovated nanotechnology to federal agency for use in food (FDA, EPA, USDA)
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Subject</th>
<th>Read Assignments/Homework</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Sept. 1 - 5</td>
<td>Sept. 2 - Food nanotechnology definitions, significance of field - Dr. Gomes</td>
<td>Small assignment HW# 1</td>
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<td></td>
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<td>Sept. 4 - Food nanotechnology brief historical perspectives/review - Dr. Gomes</td>
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<tr>
<td>2</td>
<td>Sept. 8 - 12</td>
<td>Sept. 9 - Fundamentals - Dr. Gomes</td>
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<td>Sept. 11 - Detecting and analyzing foods at the nanoscale - Dr. Gomes</td>
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<td>3</td>
<td>Sept. 15 - 19</td>
<td>Sept. 16 - Processes impacting foods at nano-scale - Dr. Gomes</td>
<td>HW# 2</td>
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<tr>
<td></td>
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<td>Sept. 18 - Processes impacting foods at nano-scale - Dr. Gomes</td>
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<tr>
<td>4</td>
<td>Sept. 22 - 26</td>
<td>Sept. 23 - Impacts of nano-structure and processes on food quality, processing, safety, and sensory properties - Dr. Gomes</td>
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<td>Sept. 26 - Dr. Eric McLamore Seminar</td>
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<tr>
<td>5</td>
<td>Sept. 29 - Oct. 3</td>
<td>Sept. 30 - Controlled release - Dr. Gomes</td>
<td>HW#3</td>
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<tr>
<td></td>
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<td>Oct. 2 - Controlled release - Dr. Gomes</td>
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<tr>
<td>6</td>
<td>Oct. 6 - 10</td>
<td>Oct. 7 - nanocomposites and active packaging - Dr. Gomes</td>
<td>White paper/brief presentation on research project</td>
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<td></td>
<td>Oct. 9 Analysis of nanotechnology - thermodynamic and chemical - Dr. Gomes</td>
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<td>7</td>
<td>Oct. 13 - 17</td>
<td>Oct. 14 - Analysis of nanotechnology - physical/rheological characterization - Dr. Gomes</td>
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<td>Oct. 16 - EXAM 1</td>
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<td>8</td>
<td>Oct. 20 - 24</td>
<td>Oct. 21 - Overview of nanotechnology applied in food systems/industries - Dr. Taylor</td>
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<td>Oct. 23 - Preservation of safety of foods - Dr. Taylor</td>
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<tr>
<td>9</td>
<td>Oct. 27 - 31</td>
<td>Oct. 28 - processing and quality applications - Dr. Taylor</td>
<td>HW#4</td>
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<td>Oct. 30 - processing and quality applications - Dr. Taylor</td>
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<tr>
<td>10</td>
<td>Nov. 3 - Nov. 7</td>
<td>Oct. 30 - SRI tour - Dr. Taylor</td>
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<td>Nov. 5 - Dr. Cristina Sabliov seminar</td>
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<td>11</td>
<td>Nov. 10 - 14</td>
<td>Nov. 11 - nano-scaled biosensors - Dr. Taylor</td>
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<td>Nov. 13 - EXAM 2</td>
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<tr>
<td>12</td>
<td>Nov. 17-21</td>
<td>Nov. 18 - Industrial and regulatory aspects - nanotethics, toxicology and allergy - Dr. Taylor</td>
<td>HW#5</td>
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<tr>
<td></td>
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<td>Nov. 20 - Industrial and regulatory aspects - regulatory concerns - Dr. Taylor</td>
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<tr>
<td>Week</td>
<td>Date</td>
<td>Event</td>
<td>Notes</td>
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<tr>
<td>13</td>
<td>Nov. 24-28</td>
<td>Nov. 25 – Robert Brummet visit – patent office</td>
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<td></td>
<td>Nov. 28 - THANKSGIVING</td>
<td></td>
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<tr>
<td>14</td>
<td>Dec. 1-5</td>
<td>Nov. 2 – Oral presentation (research proposal)</td>
<td></td>
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<tr>
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<td>Nov. 4 – Oral presentation (research proposal)</td>
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<td></td>
<td>Dec. 12</td>
<td>FINAL 12:30-2:30 p.m. RICH 1009</td>
<td>Final research paper due.</td>
</tr>
</tbody>
</table>
Texas A&M University

Departmental Request for a New Course
Undergraduate  Graduate  Professional

*Submit original form and attach a course syllabus.*

Form Instructions

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

2. Request submitted by (Department or Program Name):  
   - International Affairs

3. Course prefix, number and complete title of course:  
   - INTA 642 Institutions and Development

4. Catalog course description (not to exceed 50 words):  
   - course takes an institutional perspective to examine how politics structures development possibilities from the policymaker and citizen perspectives

5. Prerequisite(s):  
   - None

6. Cross-listed with:  
   - n/a

7. Stacked with:  
   - n/a

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

8. Is this a variable credit course?  
   - ☐ Yes  ☑ No

9. If yes, from _____ to _____

10. Is this a repeatable course?  
    - ☐ Yes  ☑ No

11. If yes, this course may be taken _____ times.

12. Will this course be repeated within the same semester?  
    - ☐ Yes  ☑ No

13. Will this course be submitted to the Core Curriculum Council?  
    - ☐ Yes  ☑ No

14. How will this course be graded?  
    - ☑ Grade  ☐ S/U  ☐ P/F (CLMD)

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

16. n/a

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

18. n/a

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

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

21. Prefix  Course #  Title (excluding punctuation)

<table>
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<tr>
<th>INTA</th>
<th>642</th>
<th>Institutions and Development</th>
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<th>Admin. Unit</th>
<th>Acad. Year</th>
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<td>17</td>
<td>18</td>
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</table>

22. Approval recommended by:
   - F. Gregory Gause, III  
   - Department Head or Program Chair (Type Name & Sign)  
   - Date

23. Leonard Bright  
   - Chair, College Review Committee  
   - Date

24. Arnold Vedlit  
   - Dean of College  
   - Date

25. Submitted to Coordinating Board by:
   - Associate Director, Curricular Services  
   - Date  

26. Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-3201 or sandra-williams@tamu.edu

Curricular Services – 07/14
INTA 689-605
Institutions and Development

Bush School of Government & Public Service
Texas A&M University
Fall 2016
Wednesday 9:35-12:15 | Allen Room 1077

Instructor: YuJung (Julia) Lee
E-mail: yujunglee@tamu.edu
Office: Allen 1033
Office Hours: Wed. 12:30-1:30 or by appointment
Course websites: http://ecampus.tamu.edu/
http://library-reserves.tamu.edu/

Course description

In recent years, there has been a growing consensus among development researchers and professionals that overcoming poverty and promoting development cannot be successful without paying attention to politics and the institutions that structure political behavior. Policymakers fail to make choices that promote welfare when they lack political will, and development efforts can entrench existing inequalities or conflicts when groups lack access to political representation or participation. To examine how politics structures development possibilities from the policymaker and citizen perspectives, this course takes an institutional perspective. First, we define what institutions are and how they shape political, social and economic behavior. Second, we examine how formal institutions such as constitutions or elections come about – and how they constrain actors. Third, we study informal institutions such as family or ethnic/religious ties, how these interact with formal institutions, and to what end. Finally, we consider the implications of these institutional configurations for economic development. The course both builds theoretical foundations and explores applications to the developing world.

Course objectives

- To introduce students to key frameworks for defining and applying the concept of institutions to the study of development.
- To acquaint students with major scholars and studies in political economy and development that have made contributions to our understanding of how and why institutions condition development outcomes.
- To encourage analytic thinking and the use of evidence when evaluating the merit of different institutional theories of development.
- To provide students with intimate knowledge of cases that illustrate the impact of institutions on development.

Required Texts

Revised 9/1/2015


All other texts can be found online at [http://reserves.library.tamu.edu](http://reserves.library.tamu.edu).

**Assignments and grading**

*In-class participation (10%)*: First, students should come to class prepared with questions about the readings and opinions or critiques as evidence of critical reading. Second, students who submit response papers will be called upon to present ideas to the class.

*Response papers (30%)*: Students are required to write three response papers (~2 pages long) for three separate weeks of the semester. No more than two students can submit each week, and sign-ups will occur on the first day of class. Papers must be emailed to the professor by noon the day before the seminar for distribution on the course list. Response papers should propose and defend a hypothesis/argument that relates to the topic of the week; synthesize readings and other relevant literature only to the extent needed to make the argument; address anticipated objections to the argument; and offer thoughts on evidence that would be needed to assess the argument’s validity. These papers will be used to structure discussion in seminar so all students should come to class having read the papers of their colleagues.

*In-class presentation (20%)*: Each student will make a 30-minute presentation on one of the readings marked with an (*). These readings are more technical in nature and the student’s role will be to study the methods used in the paper and present them in a clear and digestible manner to the rest of the class. The presentation should cover the paper’s research question, argument, evidence, methodology and findings. A short discussion of the merits and demerits of the paper should also be included.

*Research paper and presentation (40%)*: At 9am December 14, students will submit a research paper (10-12 pages) that identifies and motivates a research question or puzzling phenomenon related to political or economic development in a particular place and proposes an institutional argument to explain the phenomenon. The paper should only briefly review literature from in and outside class to suggest existing and alternative explanations for the phenomenon. The institutional argument proposed may use any of the approaches discussed in class including historical institutionalism, rational choice or game theory, or socio-cultural explanations. The paper should conclude by suggesting a research strategy to further answer the research question through original data collection (qualitative or quantitative in nature). Students will give a 15-minute presentation of the paper on the last day of class. An abstract of the paper is due in class in Week 6 on which the instructor will provide feedback to be incorporated into the final project.

The following standards will be used when grading assignments:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Extraordinary, excellent work and mastery of concept</td>
</tr>
<tr>
<td>B</td>
<td>Good work and solid command of concept</td>
</tr>
<tr>
<td>C</td>
<td>Adequate work and sufficient understanding of concept</td>
</tr>
<tr>
<td>D</td>
<td>Poor work, little understanding of concept</td>
</tr>
<tr>
<td>F</td>
<td>Lack of work, no understanding of concept</td>
</tr>
</tbody>
</table>
Late work policy

Late work will not be accepted. In the case of an emergency (ex. hospitalization, family death), accommodations may be made with timely notification and appropriate documentation before the due date.

Attendance and Make-Up Policy

Class attendance is mandatory. If an absence is excused, the instructor will either provide the student an opportunity to make up any quiz, exam or other work that contributes to the final grade or provide a satisfactory alternative by a date agreed upon by the student and instructor. If the instructor has a regularly scheduled make up exam, students are expected to attend unless they have a university approved excuse. The make-up work must be completed in a timeframe not to exceed 30 calendar days from the last day of the initial absence. The reasons absences are considered excused by the university are listed below. See Student Rule 7 for details (http://studentrules.tamu.edu/rule07). The fact that these are university-excused absences does not relieve the student of responsibility for prior notification and documentation. Failure to notify and/or document properly may result in an unexcused absence. Falsification of documentation is a violation of the Honor Code.

1) Participation in an activity that is required for a class and appears on the university authorized activity list at https://studentactivities.tamu.edu/app/sponsauth/index
2) Death or major illness in a student's immediate family.
3) Illness of a dependent family member.
4) Participation in legal proceedings or administrative procedures that require a student's presence.
5) Religious holy day. NOTE: Prior notification is NOT required.
6) Injury or illness that is too severe or contagious for the student to attend class.
   a) Injury or illness of three or more class days: Student will provide a medical confirmation note from his or her medical provider within one week of the last date of the absence (see Student Rules 7.1.6.1)
   b) Injury or illness of less than three class days: Student will provide one or both of these (at instructor's discretion), within one week of the last date of the absence:
      (i.) Texas A&M University Explanatory Statement for Absence from Class form available at http://attendance.tamu.edu or
      (ii.) Confirmation of visit to a health care professional affirming date and time of visit.
7) Required participation in military duties.
8) Mandatory admission interviews for professional or graduate school that cannot be rescheduled. Other absences may be excused at the discretion of the instructor with prior notification and proper documentation. In cases where prior notification is not feasible (e.g., accident or emergency) the student must provide notification by the end of the second working day after the absence, including an explanation of why notice could not be sent prior to the class.

On rare occasions, the instructor might have to miss a class due to administrative or academic responsibilities out of town. This will be exceedingly rare, but if it does occur, the instructor reserves the right to reschedule class at a time when the vast majority of students are available for the make-up class and will convey the material to students unable to attend the make-up during office hours.
Revised 9/1/2015

**Americans with Disabilities Act (ADA)**

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

**Academic Integrity**

For additional information please visit: [http://aggiehonor.tamu.edu](http://aggiehonor.tamu.edu)

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

NB: The professor reserves the right to modify the syllabus. Students will be given enough advance notice to meet any revised expectations.

**Course topics and selected readings**

**Week 1.  Introduction: concepts and methods**

*Prosperity and Violence.*

*Why Nations Fail.* Chapters 1-3.

Further reading:


**Week 2.  The historical-institutional approach**


Revised 9/1/2015


*Why Nations Fail.* Chapter 4.

Further reading:


**Week 3. The institutions as equilibria approach**

Game theory module (to be distributed by instructor).


Further reading:


**Week 4. Institutional change**


*Why Nations Fail.* Chapter 7.

Further reading:


Week 5.  **Formal institutions I: The state**


*Why Nations Fail*. Chapter 8.

Further reading:


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Week 6.  **Formal institutions II: Regime type**


Further reading:


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Week 7.  **Formal institutions III: Constitutions**
Revised 9/1/2015


Further reading:


**Week 8. Informal institutions I: Class and economic inequality**


Further reading:


**Week 9. Informal institutions II: Ethnicity, tradition and religion**


Further reading:


Week 10. Informal institutions III: Patron-client relationships


Further reading:


Week 11. Impacts: The economic and social origins of regime type


Further reading:

Week 12. Impacts: Democracy, state capacity and development


Further reading:


Week 13. Impacts: Participatory institutions and development


Further reading:


**Week 14. Class presentations**

Leonard: Sign off from Poli Sci.

Greg

F. Gregory Gause, III
John H. Lindsey ’44 Chair and Head of the International Affairs Department
Bush School of Government and Public Service
Texas A&M University

979-862-8834

From: Clark, William
Sent: Friday, April 22, 2016 10:56 AM
To: Gregory Gause <gregory.gause@tamu.edu>
Subject: Re: request for approval to assign permanent number to a course

Greg,

I have no objections at all, in fact, I’d like to take this class!

Best,

Bill

William Roberts Clark
Professor and Head
Department of Political Science
Charles Puryear Professor in Liberal Arts

Texas A&M University
2010 Allen Building
4348 TAMU
College Station, TX 77843-4348
On Apr 19, 2016, at 2:34 PM, Gregory Gause <gregory.gause@tamu.edu> wrote:

Bill: Sorry to clog up the in-box. I’ve been told that the Political Science Department will have to approve our request for a permanent number for this course (syllabus attached). It has been taught three times in the Int. Aff. Department, so we need to get it a permanent number.

If you have any concerns, let me know. Otherwise, if you could just let me know in an email that you have no objections, that would be great.

Cheers,

Greg

F. Gregory Gause, III
John H. Lindsey '44 Chair and Head of the International Affairs Department
Bush School of Government & Public Service
Texas A&M University
TAMU 4220
College Station, TX 77843-4220

Office phone: 979-862-8834
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
Submit original form and attach a course syllabus.

Form Instructions
1. Course request type:
   □ Undergraduate □ Graduate □ First Professional

2. Request submitted by (Department or Program Name): Harold Vance Department of Petroleum Engineering
3. Course prefix, number and complete title of course: PETE 651-Probabilistic Reserves Evaluation

4. Catalog course description (not to exceed 50 words):
   Oil and gas reserves definitions and reporting regulations; probabilistic reserves estimation methods; unconventional resources characterization; reserves valuation techniques.

5. Prerequisite(s):
   Cross-listed with: PETE 408-Probabilistic Reserves
   Stacked with: PETE 408-Probabilistic Reserves

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

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

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

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

10. 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)

   graduate students in petroleum engineering

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

12. пр

13. Petition

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>PETE 651</td>
<td>PROBABILISTIC RESERVES EVAL</td>
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<td>0.00</td>
<td>0.00</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>A. D. Hill</td>
<td></td>
<td>4/4/16</td>
</tr>
<tr>
<td>Department Head or Program Chair (Type Name &amp; Sign) Date Chair, College Review Committee Date</td>
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</tr>
<tr>
<td>Department Head or Program Chair (Type Name &amp; Sign) Date</td>
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<tr>
<td>(if cross-listed course)</td>
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<tr>
<td>Submitted to Coordinating Board by:</td>
<td></td>
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</tr>
<tr>
<td>Associate Director, Curricular Services Date</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Form Instructions
1. Course request type: [ ] Undergraduate [ ] Graduate [ ] First Professional (DSL, MPE, PME, SE)
2. Request submitted by (Department or Program Name): Harold Vance Department of Petroleum Engineering
3. Course prefix, number and complete title of course: PETE 651-Probabilistic Reserves Evaluation
4. Catalog course description (not to exceed 50 words):
   Oil and gas reserves definitions and reporting regulations; probabilistic reserves estimation methods; unconventional resources characterization; reserves valuation techniques.

5. Prerequisite(s):
   Graduate classification or approval of instructor

   Cross-listed with: [ ]

   Stacked with: PETE 408-Probabilistic Reserves Evaluation

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

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

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

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

9. How will this course be graded? [ ] Grade
   [ ] S/U
   [ ] P/F (CLAD)

10. This course will be:
   a. [ ] required for students enrolled in the following degree programs(s) (e.g., B.A. in history)
   n/a
   b. [ ] an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)
   graduate students in petroleum engineering

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

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

13. Prefix | Course # | Title (excluding punctuation)
   ---- | ------- | -------------------------------------
   PETE | 651 | PROBABILISTIC RESERVES EVAL

   Lect. | Lab | Other | SCH | CIP and Fund Code | Admin. Unit | Acad. Year | FICE Code
   ---- | ---- | ------ | ---- | ------------------ | ----------- | ----------- | -------
   3.00 | 0.00 | 0.00 | 3.00 | 1425010006 | 2210 | 17 | 18 | 0 | 0 | 3 | 6 | 3 | 2 | Level | 6

Approval recommended by:
A. D. Hill

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

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

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

Associate Director, Curricular Services

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
Curricular Services – 07/14
Course title and number: PETE 651: Probabilistic Reserves Evaluation
Term: Fall 2016
Meeting times and location: TR 12:45 – 2:00 PM, RICH 1009

Course Description and Prerequisites

Oil and gas reserves definitions and reporting regulations. Probabilistic reserves estimation methods. Unconventional resources characterization. Reserves valuation techniques.

Prerequisites

Graduate classification or approval of instructor

Learning Outcomes and Course Objectives

This course will equip students to classify and categorize petroleum resources properly and to estimate and report these resources (especially reserves) correctly using probabilistic estimation procedures. Students will be able to estimate reserves and non-reserves resource volumes using probabilistic techniques in unconventional (low permeability) resource petroleum accumulations.

Instructor Information

Name: John Lee, Professor
Telephone number: 979.845.2208
Email address: john-lee@tamu.edu
Office hours: Monday and Tuesday, 9:00-11:00 a.m.
Office location: 401P Richardson Building

Textbook and/or Resource Material


Grading Policies

Term papers................................................................. 20%
Homework............................................................. 20%
Mid-semester exams (2)........................................... 30%
Final Exam............................................................. 30%
Total................................................................. 100%

Grading Scale

A................................................................. 90-100%
B................................................................. 80-89%
C................................................................. 70-79%
D................................................................. 60-69%
F................................................................. 0-59%
Course Topics, Calendar of Activities, Major Assignment Dates

Homework will be due before the start of each class, and will be submitted electronically. Late homework will not be accepted without prior approval except in emergencies or approved university absences. Classes will be recorded and students may access the recordings. Students are expected to attend class. Graduate students will submit two term papers during the semester. http://student-rules.tamu.edu/rule07

<table>
<thead>
<tr>
<th>Week 1</th>
<th>SPE Petroleum Resources Management System (PRMS)</th>
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<tr>
<td>Week 2</td>
<td>PRMS and SEC reserves reporting requirements</td>
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<td>Week 3</td>
<td>Descriptive statistics, basic probability concepts</td>
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<td>Week 4</td>
<td>Expected value and decision trees</td>
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<td>Week 5</td>
<td>Probability distributions 1; mid-semester exam 1</td>
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<td>Week 6</td>
<td>Probability distributions 2</td>
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<td>Week 7</td>
<td>Overview of probabilistic reserves estimation procedures</td>
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<td>Monte Carlo simulation 1</td>
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<td>Week 9</td>
<td>Monte Carlo simulation 2</td>
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<td>Week 10</td>
<td>Capen's alternative to Monte Carlo simulation; mid-semester exam 2</td>
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<tr>
<td>Week 11</td>
<td>Unconventional resources 1</td>
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<td>Week 12</td>
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<td>Unconventional resources 3</td>
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<td>Week 14</td>
<td>Unconventional resources 4</td>
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<tr>
<td>Week 15</td>
<td>Final exam</td>
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Americans with Disabilities Act (ADA)

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Coursework Copyright Statement: (Texas A&M University Policy Statement)

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Academic Integrity

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

"An Aggie does not lie, cheat, or steal, or tolerate those who do."
Texas A&M University
Departmental Request for a New Course
Undergraduate † Graduate † Professional
† Submit original form and attach a course syllabus.

Form Instructions

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

2. Request submitted by (Department or Program Name): Harold Vance Department of Petroleum Engineering

3. Course prefix, number and complete title of course: PETE 652-Deterministic Reserves Evaluation

4. Catalog course description (not to exceed 50 words): Oil and gas reserves definitions and reporting regulations; deterministic estimation methods; unconventional resources characterization; reserves valuation techniques.

5. Prerequisite(s): Graduate classification or approval of instructor

   Cross-listed with: Stacked with: PETE 418-Deterministic Reserves

6. Is this a variable credit course? ☐ Yes ☑ No

7. Is this a repeatable course? ☐ Yes ☐ No

   If yes, from _______ to _______

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

   If yes, this course may be taken _______ times.

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

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

11. 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)

   Graduate students in petroleum engineering

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

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

13. PDR Data Sheet: Title including punctuation

   PETE 652 DETERMINISTIC RESERVES EVAL

   Fee Lab Other SCHE Code Eff Unit Acct Year ITL Code
   3.00 0.00 0.00 3.00 1425010006 2210 17 18 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) Date Dean of College Date

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

   Date Effective Date

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

Curricular Services – 07/14
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
• Submit original form and attach a course syllabus.

Form Instructions:
1. Course request type:
   □ Undergraduate  ✔ Graduate  □ First Professional (DVM, MD, JD, Ph.D., DVM)
2. Request submitted by (Department or Program Name):
   Harold Vance Department of Petroleum Engineering
3. Course prefix, number and complete title of course:
   PETE 652-Deterministic Reserves Evaluation

4. Catalog course description (not to exceed 50 words):
   Oil and gas reserves definitions and reporting regulations; deterministic estimation methods; unconventional resources characterization; reserves valuation techniques.

5. Prerequisite(s):
   Graduate classification or approval of instructor
   Cross-listed with:
   Stacked with: PETE 418-Deterministic Reserves

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

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

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

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

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

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

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    a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)
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    b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)
    Graduate students in petroleum engineering

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13. Prefix  Course #  Title (excluding punctuation)
    PETE  652  DETERMINISTIC RESERVES EVAL

    Lect.  Lab  Other  SCH  CIP and Fund Code  Admin. Unit  Acad. Year  FICE Code
    3.00  0.00  0.00  3.00  1425010006  2210  17 - 18  0  0  3  6  3  2

    Approval recommended by:
    A. D. Hill
    Department Head or Program Chair (Type Name & Sign) Date
    Chair, College Review Committee Date

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

    Submitted to Coordinating Board by:
    Chair, GC 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 – 07/14
Course title and number  PETE 652: Deterministic Reserves Evaluation

Term  Spring 2017
Meeting times and location  TBA

Course Description and Prerequisites

Oil and gas reserves definitions and reporting regulations and deterministic estimation methods. Unconventional resources characterization. Reserves valuation techniques.

Prerequisites

Graduate classification or approval of instructor

Learning Outcomes and Course Objectives

This course will equip students to classify and categorize petroleum resources properly and to estimate and report these resources (especially reserves) correctly using deterministic estimation procedures. Students will be able to estimate reserves and non-reserves resource volumes in unconventional (low permeability) resource petroleum accumulations.

Instructor Information

Name  John Lee, Professor
Telephone number  979.845.2208
Email address  john-lee@tamu.edu
Office hours  Monday and Tuesday, 9:00-11:00 a.m.
Office location  401P Richardson Building

Textbook and/or Resource Material


Grading Policies

Term papers................................................................. 20%
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Total............................................................................... 100%

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<table>
<thead>
<tr>
<th>Week 1</th>
<th>Overview, introduction to PRMS</th>
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<tbody>
<tr>
<td>Week 2</td>
<td>PRMS (cont’d)</td>
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<td>Week 3</td>
<td>SEC reserves reporting requirements</td>
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<tr>
<td>Week 4</td>
<td>Reserves estimation methods</td>
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<tr>
<td>Week 5</td>
<td>Deterministic reserves examples; Mid-semester Exam 1</td>
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<td>Week 6</td>
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<td>Week 7</td>
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<td>Week 8</td>
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<td>Week 10</td>
<td>Linear flow and Duong model; Mid-semester Exam 2</td>
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<td>Week 11</td>
<td>Decline analysis workflow</td>
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<td>Week 12</td>
<td>RTA workflow, Marcellus example</td>
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<td>Week 13</td>
<td>SPEE Monograph 4</td>
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<td>Week 14</td>
<td>PUDs and SPEE Monograph 3</td>
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<tr>
<td>Week 15</td>
<td>Final exam</td>
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**Academic Integrity**

For additional information please visit: [http://aggiehonor.tamu.edu](http://aggiehonor.tamu.edu)

"An Aggie does not lie, cheat, or steal, or tolerate those who do."
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
- Submit original form and attach a course syllabus.

Form Instructions
1. Course request type: Undergraduate [✓] Graduate [ ] First Professional (MD, JD, Pharm), DVM
2. Request submitted by (Department or Program Name): College of Agriculture and Life Sciences
3. Course prefix, number and complete title of course: WFSC 614: Down River: Biology of Gulf Coastal Fishes

4. Catalog course description (not to exceed 50 words): Understanding the biological complexity of Gulf coast river systems while gaining hands-on experience in field and museum ichthyological techniques; sampling of the Guadalupe and San Antonio rivers; participation in lectures, museum preparation and archiving specimens at the Biodiversity Research and Teaching Collections (BRTC).

5. Prerequisite(s): Graduate classification

Cross-listed with: [ ]

Stacked with: WFSC 314

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

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

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)

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

13. Prefix Course # Title (excluding punctuation)

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<th>612</th>
<th>Down Rvr Biol Gulf Coast Fish</th>
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<td>Lec.</td>
<td>Lab</td>
<td>Other</td>
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<tr>
<td>2.00</td>
<td>3.00</td>
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</tbody>
</table>

Approval recommended by:

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

Cherie L. Reed
Chair, College Review Committee Date

Date

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

Dean of College

Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services

Date

Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services – 07/14
Down River: Biology of Gulf Coastal Fishes
WFSC 314/614

1. INSTRUCTOR:
   Dr. Kevin W. Conway
   Email: kevin.conway@tamu.edu
   Office: 113 Heep Laboratory Building
   Phone: 979-845-2620
   Office hours: by appointment

2. COURSE DESCRIPTION:
   This two-week, 3 credit course covers aspects of ecology and zoogeography of riverine and estuarine fishes while exposing students to field sampling techniques and museum preparation of specimens. Seven days will be spent sampling the Guadalupe and San Antonio river drainages from their headwaters all the way down to San Antonio Bay. A second week will be spent at the Biodiversity Research and Teaching Collections (BRTC) at Texas A&M University, College Station where students will participate in lectures and discussion as well as museum preparation and archiving of specimens. This will be a unique opportunity for students to gain an in depth understanding of the biological complexity of Gulf coast river systems while gaining hands-on experience in field and museum ichthyological techniques employed by state, federal and academic researchers alike. In addition, this learning experience will contribute directly to the Collection of Fishes at the Biodiversity Research and Teaching Collections, the largest collection of vertebrates in Texas. This is an intensive course and students should expect 8 to 12 hour/days in the field and museum. Students need to be prepared to camp during the first week of the course (which will take place in the field) and be prepared for an intense week of museum-based activities (at the BRTC) during the second week of the course.

3. AUDIENCE AND PREREQUISITES:
   This course runs concurrently with TAMU Corpus Christi BIOL 44xx/54xx and is intended for advanced undergraduate and graduate students. WFSC 311 (or equivalent course) with a grade of B or better and approval of instructor is required for undergraduate students.

4. PRIMARY TEXTS:

5. LEARNING OUTCOMES:
   1. Learn how to sample and identify freshwater and estuarine fishes of Texas.
   2. Understand the ecology of stream communities on a drainage wide basis.
   3. Exhibit an understanding of how human populations affect coastal drainages.
   4. Develop critical reading and review skills by discussing classic and current scientific papers.
   5. Develop scientific writing skills by producing a synthesis document about species and issues discussed.
   6. Gain experience in both field- and museum-based ichthyology.

6. GRADING FOR UNDERGRADUATE STUDENTS:
   • 100 points available. Grading scale: 0-59% F; 60-69% D; 70-79% C; 80-89% B; 90-100% A
   • Field participation (25%)
   • Museum participation (25%)
   • Practical Exam (25%)
   • Written synthesis document (25%)
7. Grading for Graduate Students Enrolled in WFSC 614:
- 100 points available. Grading scale: 0-59% F; 60-69% D; 70-79% C; 80-89% B; 90-100% A
- Field participation (25%)
- Museum participation (25%)
- Practical Exam (25%)
- Written synthesis document (15%)
- Presentation (10%)
- Museum participate component of grade for graduate students will be assessed based on performance as a team leader for a small (~2-3 member) group of undergraduate students during second week of course. Graduate students will also be expected to prepare and present a short 15-minute presentation on a published ichthyofaunal survey(s) for a river drainage(s) of their choosing.

8. Course Outline: (dates tentative and subject to change at the discretion of the instructor)
- May 13-18: Edwards Plateau, gulf-coastal plain and San Antonio Bay area. Field-work will consist of sampling two-three stations per day along the Guadalupe and San Antonio rivers. Transportation and accommodation will be arranged over the duration of the first week. Please be prepared for basic living conditions (i.e., camping).
- May 19-26: BRTC, College station. Museum based learning will consist of specimen identification, sorting and curation combined with traditional lectures and discussion sessions.

9. Other Information

Attendance: 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

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, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information visit http://disability.tamu.edu.

Academic Integrity Statement: "An Aggie does not lie, cheat, or steal or tolerate those who do." 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. For additional information please visit: http://aggiehonor.tamu.edu/
Texas A&M University

Departmental Request for a New Course
Undergraduate • Graduate • Professional

• Submit original form and attach a course syllabus.

Form Instructions

1. Course request type:  
   - [ ] Undergraduate  
   - [ ] Graduate  
   - [x] First Professional (DDS, MD, JD, PharmD, DVM)

2. Request submitted by (Department or Program Name):  
   - College of Agriculture and Life Sciences

3. Course prefix, number and complete title of course:  
   - WFSC 314: Down River: Biology of Gulf Coastal Fishes

4. Catalog course description (not to exceed 50 words):  
   - Understanding the biological complexity of Gulf coast river systems while gaining hands-on experience in field and museum ichthyological techniques; sampling of the Guadalupe and San Antonio rivers; participation in lectures, museum preparation and archiving specimens at the Biodiversity Research and Teaching Collections (BRTC).

5. Prerequisite(s):  
   - WFSC 311 with a grade of B or better and approval of instructor.

6. Is this a variable credit course?  
   - [x] No

7. Is this a repeatable course?  
   - [x] No

8. Will this course be submitted to the Core Curriculum Council?  
   - [x] No

9. How will this course be graded?  
   - [x] Grade

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

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

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

13. Prefix  
   - WFSC

   Course #  
   - 312 314

   Title (excluding punctuation)  
   - Down Rvr Biol Gulf Coast Fish

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Approval recommended by:  
- Michael Masser  
  - Chair, College Review Committee  
  - Date

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

Dean of College  
- Date

Chair, GC or UCC  
- Date

Submitted to Coordinating Board by:  
- Effective Date

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