Course Changes
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

1. Request submitted by (Department or Program Name):
   Department of Atmospheric Sciences
   ATMO 602 Principles of Atmospheric Physics and Chemistry

2. Course prefix, number and complete title of course:
   ATMO 601
   None
   Attach a brief supporting statement for changes made to items 3, 5 through 10, and 12 below.

3. Change requested:
   ATMO 601
   None
   a. Prerequisite(s):
      From: ___________________________ To: ___________________________
   b. Withdrawal (reason):
      ___________________________
   c. Cross-list with:
      Cross-listed courses require the signature of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

   4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description:
   Principles of Atmospheric Physics and Chemistry
   Integrated treatment of fundamental aspects of physical meteorology and atmospheric chemistry; ultraviolet and infrared absorption and emission; radiative transfer; cloud and precipitation microphysics and thermodynamics.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):
   Atmospheric Physics I
   Integrated treatment of the dry and moist thermodynamics of the atmosphere and cloud and precipitation microphysics.

7. a. As currently in course inventory:
   Prefix  Course #  Title (excluding punctuation)
   ATMO  602  Atmos Phys and Chem
   Lect. Lab SCH CIP and Fund Code Admin. Unit HCE Code Level
   0 3 0 0 0 3 4 0 0 4 0 1 0 0 0 2 0 3 5 1 0 0 3 6 3 2 8

   b. Change to:
   Prefix  Course #  Title (excluding punctuation)
   ATMO  602  Atmos Physics I
   Lect. Lab SCH CIP and Fund Code Admin. Unit Acad. Year HCE Code Level
   0 3 0 0 0 3 4 0 0 4 0 3 0 0 2 0 3 5 1 1 3 0 0 3 6 3 2

   Approval recommended by:
   Department Head or Program Chair (Type Name & Sign)  9/18/2012
   Dr. Ying Yang
   Chair, College Review Committee
   Date
   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 – 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

1. Request submitted by (Department or Program Name):
   Department of Atmospheric Sciences
   ATMO 612 Atmospheric Physics II

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

3. Change requested
   Graduate classification or approval of instructor
   ATMO 602
   Cross-listed courses require the signature of both department heads.
   a. Prerequisite(s): From: ___________________________ To: ___________________________
   b. Withdrawal (reason): ___________________________
   c. Cross-list with: ___________________________
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description:
   Atmospheric Physics II
   Fundamentals of physical meteorology; includes cloud physics, atmospheric electricity and atmospheric chemistry.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):
   Atmospheric Physics II
   Continuation of ATMO 602. Radiative transfer in the atmosphere.

7. a. As currently in course inventory:

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<th>Prefix</th>
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   Approval recommended by: 
   Dr. Phoebe Yang 9/18/2012
   Dr. Sarah Bednarz

   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 12-6-12
   Date

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

   Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
   Curricular Services – 02/11
The Department of Construction Science would like to ask that the following changes are considered in the Texas A&M University's Graduate Catalog starting in the fall 2013 semester:

- COSC 601 – Construction Practices: change of course description;
- COSC 602 – Construction Estimating: change of course title to "Construction Cost Estimating" and change of course description;
- COSC 603 – Construction Scheduling: change of course description, change of prerequisites, and change of contact hours (lecture and lab);
- COSC 606 – Mechanical and Electrical Construction: change of course description;
- COSC 608 – Structural Principles and Practices: change of course description;
- COSC 620 – Construction Operations: change of course title to "Construction Company Operations" and change of course description;
- COSC 621 – Advanced Topics in Construction Project Scheduling and Project Management: change of course title to "Advanced Project Management", change of prerequisites, and change of course description;
- COSC 622 – Construction Resources: change of course title to: "Construction Economics" and change of course description;
- COSC 624 – Project Acquisition and Control: change of course title to: "Construction Business Development" and change of course description;
- COSC 628 – Applications of Construction Law: change of course title to: "Construction Contracts and Risk Management" and change of course description;
- COSC 631 – Supervision of the Construction Workforce: change of course title to: “Advanced Productivity and Lean” and change of course description;

- COSC 642 – Web-Based Construction Data Management: change of course title to: “Construction Information Technology” and change of course description;

- COSC 644 – Systems Approach to Construction Management: change of course title to: “Advanced Construction Systems” and change of course description;

- COSC 648 – Design-Build Project Delivery: change of course title to: “Graduate Capstone” and change of course description;

- COSC 650 – Introduction to Construction Visualization: change of course title to: “Advanced Construction Visualization” and change of contact hours (lecture and lab);

- COSC 663 – Sustainable Construction: change of course description;

- COSC 670 – Facilities Management: change of course title to: “Facility Asset Management” and change of course description;

- COSC 681 – Seminar: change of course description and change of prerequisites;

- COSC 684 – Professional Internship: change of course description and change of prerequisites;

- COSC 690 – Theory of Research in Construction Management: change of course description and change of prerequisites;

- COSC 691 – Research: change of prerequisites; and

- COSC 693 – Professional Study: change of prerequisites.

The reason for these changes is the implementation of a revised curriculum that includes teaching of contemporary and up-to-date topical content in graduate level courses offered by the Department of Construction Science.

Attached with this memo are original, signed “Texas A&M University: Departmental Request for a Change in Course” forms for all of the above-mentioned courses, as well as proposed course syllabi for the courses in which changes of contact hours are proposed.

If you have any additional questions, please do not hesitate to contact me.
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
Submit original form and attachments

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science

2. Course prefix, number and complete title of course: COSC 601 - Construction Practices

3. Change requested
   a. Prerequisite(s): From: ___________________________ To: ___________________________
   b. Withdrawal (reason):
   c. Cross-list with:
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description: Construction Practices. Construction materials and processes from inception to completion; alternative construction delivery processes; code standards and safety aspects related to buildings; various contemporary/innovative building systems.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Construction Practices. Materials and methods of construction with emphasis on the design and construction process; includes structural steel and other metals, foundation materials, precast and tilt wall concrete, concrete reinforcement including pre-stressing, wood dimension lumber framing, and heavy timber framing.

7. a. As currently in course inventory:

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   Approval recommended by:

   Prof. Joe Horlen
   Department Head or Program Chair (Type Name & Sign) Date
   Prof. Leslie Feigenbaum
   Chair, College Review Committee Date
   Dr. Jorge Vanez
   Dean of College Date
   Chair, GC or UCE 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.

Curriculum Status: 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 602 - Construction Estimating

3. Change requested
   a. Prerequisite(s): From: __________________________ To: __________________________
   b. Withdrawal (reason): __________________________
   c. Cross-list with: __________________________

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

   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.

   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description: Construction Estimating. A graduate level course designed to provide the student with a comprehensive introduction to the principles, techniques, technologies, and basic concepts involving construction management's methodology and strategy used in the preparation of construction estimate and bid.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Construction Cost Estimating. Determination of quantities for various types of construction materials and works including earthwork, foundations, structural systems, mechanical and electrical systems, and building finishes; methods used for pricing of construction works including labor, materials, equipment, sub-contractors, overhead and profit; use of various types of cost data catalogs available in the industry.

7. a. As currently in course inventory:

   Prefix | Course # | Title (excluding punctuation) |
   ------ | -------- | ----------------------------- |
   COSC  | 602     | CONSTRUCTION ESTIMATING       |

   Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | CICE Code | Level |
   ----- | --- | --- | ------------------ | ----------- | --------- | ----- |
   0    | 3   | 0   | 031501010101907170 | 03632      | 5         |

   b. Change to:

   Prefix | Course # | Title (excluding punctuation) |
   ------ | -------- | ----------------------------- |
   COSC  | 602     | COST ESTIMATING               |

   Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | Acad Year | CICE Code | Level |
   ----- | --- | --- | ------------------ | ----------- | --------- | --------- | ----- |
   0    | 3   | 0   | 031501010101907171 | 03632      | 5         |

   Approval recommended by:

   Prof. Joe Horlen
   Department Head or Program Chair (Type Name & Sign) Date 1/29/12

   Prof. Leslie Feigenbaum
   Chair, College Review Committee
   Date 12/6/12

   Dr. Jorge Varajas
   Dean of College
   Date 12/6/12

   Submitted to Coordinating Board by:

   Chair, GE or UCC
   Date 12/6/12

   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 Change in Course
Undergraduate • Graduate • Professional
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Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 603 - Construction Scheduling
   Attach a brief supporting statement for changes made to items 3a through 6 below.
3. Change requested
   a. Prerequisite(s): From: None To: COSC 602 or equivalent
   b. Withdrawal (reason):
   c. Cross-list with:
      Cross-listed courses require the signature of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.
4. For informational purposes only, please indicate course number if this course will be stacked:
5. Complete current course title and current catalog course description: Construction Scheduling. Construction scheduling process utilizing current techniques including critical path method, precedence method, program evaluation and review techniques, and probabilistic method; development of parameter estimates for activities that relate to the construction of a building project; work packages sequenced, planned and leveled to develop a working project execution document; development of procedures to monitor actual field progress; computer application in project scheduling.
6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Construction Scheduling. Introduction to commonly used techniques and computer applications for the planning, scheduling, monitoring, and controlling of construction projects; includes key scheduling techniques such as Gantt Chart, CPM, PERT, LSM, and EVM; practical scheduling practices such as tracking, controlling, and forecasting trends of schedules, cost control, and reporting.
7. a. As currently in course inventory:

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Lect. Lab SCH CIP and Fund Code Admin. Unit FCE Code Level
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Lect. Lab SCH CIP and Fund Code Admin. Unit Acad. Year FCE Code Level
0 3 0 0 0 3 1 5 0 1 0 1 0 1 9 0 7 1 7 1 3 - 1 4 0 0 3 6 3 2

Approval recommended by:

Prof. Joe Horlen
Department Head or Program Chair (Type Name & Sign) Date 10/24/12

Prof. Leslie Feigenbaum
Chair, College Review Committee Date 10/29/11

Dr. Jorge Vargas
Dean of College Date 12-6-12

Submitted to Coordinating Board by:

Associate Director, Curricular Services Date 02/11

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
College of Architecture
DEPARTMENT OF CONSTRUCTION SCIENCE

COURSE
Title and Number: COSC 603 Construction Scheduling
Term: Fall 2013
Meeting Times and Locations: 601  Lecture: TBA; Location: TBA
Instructional Type and Method: Lecture; Traditional, Face-to-Face, Laboratory

DESCRIPTION AND PREREQUISITES
(3-0) Credit 3. Introduction to commonly used techniques and computer applications for the planning, scheduling, monitoring, and controlling of construction projects; includes key scheduling techniques such as Gantt Chart, CPM, PERT, LSM, and EVM; practical scheduling practices such as tracking, controlling, and forecasting trends of schedules, cost control, and reporting; Prerequisites: COSC 602 or equivalent.

PROGRAM LEARNING OUTCOMES APPLICABLE TO THIS COURSE
(Outcome #2) Demonstrate complex problem solving and decision making
(Outcome #4) Be able to use information and communication technology
(Outcome #6) Have a working knowledge of current issues in construction

COURSE STUDENT LEARNING OUTCOMES
Upon completion of the course, students will be able to:
1. Develop a cost/resource loaded master schedule; review, update and revise schedules.
2. Demonstrate the effective use of scheduling software.
3. Analyze past performance, forecast trends, and produce progress reports.
4. Estimate the impact of change orders and delays on a project schedule.
5. Identify optimum path of crashed schedules.

INSTRUCTOR INFORMATION
Name: TBA
Phone Number: TBA
Email Address: TBA
Office Hours: TBA
Office Location: TBA

TEXTBOOKS
Required
Reference

GRADING POLICIES
Final Grades will be awarded based on the following:
- 90.0 – 100.0: A
- 80.0 – 89.9: B
- 70.0 – 79.9: C
- 60.0 – 69.9: D
- 0.0 – 59.9: F

Major Assignments and Values
1. In-class assignments: 15%
2. Homework: 15%
3. Midterm exam: 15%
4. Final exam: 15%
5. Term Project 1: 15%
6. Term Project 2: 25%
7. Extra credit: As per the instructor’s discretion

CALENDAR OF ACTIVITIES AND MAJOR ASSIGNMENTS
Lecture Schedule
*This is a tentative schedule and is subject to change at the discretion of the instructor.*
- **Weeks 1-2:** Gantt chart
- **Weeks 3-4:** Network diagramming methods
- **Weeks 5-6:** Critical Path Calculation (CPM)
- **Week 7:** Term Project 1; PERT and LSM
- **Week 8:** Midterm exam; Scheduling software (MS Project and P6), master scheduling, work packaging
- **Week 9:** Parametric estimating, preconstruction planning
- **Week 10:** Duration calculation and crew selection, construction sequencing
- **Week 11:** Reporting and activity coding, cost loading, resource management
- **Week 12:** Updating the schedule (progress measurement)
- **Week 13:** Term Project 2; Earned Value Method, delays and claims
- **Week 14:** Schedule crashing, scheduling with subcontractors

SPECIAL PROVISIONS
*Americans with Disabilities Act (ADA) Policy Statement*
The American’s with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability
requiring an accommodation, please contact the Department of Disability Services in Cain Hall B118, call 845-1637, or e-mail disability@tamu.edu.

Academic Integrity
Misconduct in research or scholarship includes fabrication, falsification, or plagiarism in proposing, performing, reviewing, or reporting research. It does not include honest error or honest differences in interpretations or judgments of data.

Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one's work, should the instructor request it, is sufficient grounds to initiate an academic dishonesty case. For additional information please visit: http://aggiehonor.tamu.edu/.

"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.

Absences
Rules concerning excused absences may be found at http://student-rules.tamu.edu/rule07. In particular, except for absences due to religious obligations, the student must notify his or her instructor in writing (acknowledged e-mail message is acceptable) prior to the date of absence if such notification is feasible. By state law, if a student misses class due to an obligation of his or her religion, the absence is excused. A list of days of religious obligation for the coming semester may be found at http://student-rules.tamu.edu/append4.

Disruptive Behavior
If a student's behavior in class is sufficiently disruptive to warrant immediate action, the instructor is entitled to remove a student on an interim basis, pending an informal hearing with the Head of the Department offering the course. This hearing must take place within three working days of the student's removal. This rule and supporting information may be found at http://student-rules.tamu.edu/rule21.

Copyright
Dr./Prof. TBA reserves copyright to all materials used in this course. This means all materials generated for this class, which includes but is not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy any material, unless expressly granted written permission.
Defacement of University Property

"It is unlawful for any person to damage or deface any of the buildings, statues, monuments, trees, shrubs, grasses, or flowers on the grounds of any state institutions of higher education (Texas Education Code Section 51.204)" The words damage or deface refer specifically to any and all actions, whether direct or indirect, that either diminish the value or mar the appearance of the physical environment.
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 606 - Mechanical and Electrical Construction

Attach a brief supporting statement for changes made to items 3a thru 3d and 5 below.

3. Change requested
   a. Prerequisite(s): From: __________________________ To: __________________________
   b. Withdrawal (reason): __________________________
   c. Cross-list with: __________________________

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

   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.

   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description: Mechanical and Electrical Construction. Selection of mechanical and electrical equipment to support construction operations; design, construction and costs of building mechanical/electrical subsystems; energy, operating and maintenance costs.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Mechanical and Electrical Construction. Building environmental systems with a major emphasis on the design and control of the heating, ventilation and cooling systems, plumbing and drainage systems, electrical, fire and lightning protection, and lighting; design opportunities, calculations, equipment selection and economics as they relate to design and construction.

7. a. As currently in course inventory:

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   | Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | Acad. Year | FICE Code |
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   Approval recommended by:

   Prof. Joe Horlen [Signature] 25/12
   Department Head of Program Chair (Type Name & Sign) Date

   Chair, College Review Committee 12/11

   Dr. Jorge Vargas [Signature] 10/29
   Dean of College Date

   Submitted to Coordinating Board by:

   Chair, UC or UCC 12-6-12

   Date Effective Date
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science

2. Course prefix, number and complete title of course: COSC 608 - Structural Principles and Practices

3. Change requested
   a. Prerequisite(s): From: ________________________________ To: ________________________________
   b. Withdrawal (reason):
   c. Cross-list with:

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

   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.

   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked: ________________________________

5. Complete current course title and current catalog course description: Structural Principles and Practices. Investigations into practical applications of structural design; surveys and studies of various structural systems.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Structural Principles and Practices. Investigations into practical applications of structural design including the analysis and design of structural members in steel and concrete; surveys and studies of various structural systems.

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   Approval recommended by: ________________________________ Level ________________________________
   Prof. Joe Horlen
   Department Head or Program Chair (Type Name & Sign) Date 10/29/12

   Department Head or Program Chair (Type Name & Sign) Date 10/29/12
   (if cross-listed course)

   Department Head or Program Chair (Type Name & Sign) Date 12/6/12
   Chair, College Review Committee
   Dr. Jorge Vargas
   Dean of College

   Submitted to Coordinating Board by: ________________________________
   Chair, GP or UCO Date ________________________________
   Effective Date ________________________________

   Associate Director, Curricular Services

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 Change in Course
Undergraduate • Graduate • Professional
Submit original form and attachments

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 620 - Construction Operations
   Attach a brief supporting statement for changes made to items 3a thru 3d. and 6 below.
3. Change requested
   a. Prerequisite(s): From: ____________________________ To: ____________________________
   b. Withdrawal (reason): ____________________________
   c. Cross-list with: ____________________________
   Cross-listed courses require the signature of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.
4. For informational purposes only, please indicate course number if this course will be stacked: ____________________________
6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Construction Company Operations. Running a construction company; strategic planning; business planning; organizational theory; competitor analysis; risk management; financial analysis; human resources; management information systems; leadership; codes of ethics; best practices.
7. a. As currently in course inventory:

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Approval recommended by:

Prof. Joe Horlen 1/24/12
Department Head or Program Chair (Type Name & Sign) Date

Prof. Leslie Feigenbaum 1/24/12
Chair, College Review Committee Date

Dr. Jorge Vargas 1/24/12
Dean of College Date

Submitted to Coordinating Board by:

Chair, GCC or UCC 12/6/12
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 – 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 621 - Advanced Topics in Construction Project Scheduling and Project Management
3. Change requested
   Attach a brief supporting statement for changes made to items 3a through 3d below.
   a. Prerequisite(s): From COSC 602 and COSC 603 or equivalent; STAT 651
   b. Withdrawal (reason):
   c. Cross-list with:
   Cross-listed courses require the signatures of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.
4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description: Advanced Topics in Construction Project Scheduling and Project Management. Advanced Techniques used in scheduling and evaluating progress in construction project control; development of strategies for overcoming overruns; resource allocations; case studies.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Advanced Project Management. Theoretical, practical, and strategic development in the management of contemporary construction projects; advanced techniques used in scheduling and evaluating progress in construction project control; exploration of state-of-the-art management principles and practices, and development of additional insights.

7. a. As currently in course inventory:

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Approval recommended by: [signature]

Date: 1/29/13

Questions regarding this form should be directed to Sandra Williams at 843-8201 or sandra.williams@tamu.edu.
Curricular Services – 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
Submit original form and attachments

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science

2. Course prefix, number and complete title of course: COSC 622 - Construction Resources

3. Change requested
   a. Prerequisite(s): From: ___________________________ To: ___________________________
   b. Withdrawal (reason): __________________________________________________________
   c. Cross-list with: ________________________________________________________________

   Cross-listed courses require the signature of both department heads.
   
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.

   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked: ___________________________

5. Complete current course title and current catalog course description: Construction Resources. Identification and analysis of the factors affecting resources of the construction industry on a local, regional, national and international level.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Construction Economics. Foundation in Life Cycle Cost Analysis computation within the context of current issues in environmental sustainability and evidence-based thinking; lean construction as a strategy to overcome the hurdle of first cost.

7. a. As currently in course inventory:

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Approval recommended by:

Prof. Joe Harlan
Department Head of Program Chair (Type Name & Sign) Date 10-26-12

Prof. Leslie Feigenbaum
Chair, College Review Committee Date 10-29-12

Dr. Jorge Vargasa
Dean of College Date 12-6-12

Chair, GC or GCC Date 12-6-12

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
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 624 - Project Acquisition and Control

Attach a brief supporting statement for changes made to items 3a thru 3d, and 6 below.

3. Change requested
   a. Prerequisite(s): From: ________________________________ To: ________________________________
   b. Withdrawal (reason): ________________________________
   c. Cross-list with: ________________________________

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

   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.

   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description: Project Acquisition and Control. Acquisition of new work in the construction industry; overview of organizational theory, strategic planning and business planning in the construction industry; acquisition procedures including response techniques for complex requests for proposals; understanding concepts of sales and marketing, backlog, and business development budgeting in construction.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Construction Business Development. Acquisition of new work in the construction industry; understanding available project delivery systems; competitor analyses; acquisition procedures including response techniques for complex requests for proposals; understanding concepts of sales and marketing, backlog, and business development budgeting in construction.

7. a. As currently in course inventory:

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Approval recommended by:

Prof. Joe Herlen  
Department Head or Program Chair (Type Name & Sign)  
Date  

Prof. Leslie Feigenbaum  
Chair, College Review Committee  
Date  

Dr. Jorge Vargas  
Dean of College  
Date  

Submitted to Coordinating Board by:

Associate Director, Curricular Services  
Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu  
Curricular Services – 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions

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

2. Course prefix, number and complete title of course: COSC 627 - Construction Dispute Resolution Alternatives

3. Change requested
   a. Prerequisite(s): From: ___________________________ To: ___________________________
   b. Withdrawal (reason): New curriculum in which this course is no longer going to be offered.
   c. Cross-list with: ___________________________
      Cross-listed courses require the signature of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked: ___________________________

5. Complete current course title and current catalog course description:

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):

7. a. As currently in course inventory:

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Approval recommended by:

Prof. Joe Horlen [Signature] 10/26/12
Department Head or Program Chair (Type Name & Sign) Date

Prof. Leslie Peigo [Signature] 12/3/12
Chair, College Review Committee Date

Dr. Jorge Vargas [Signature] 12/3/12
Dean of College Date

Chair, GC or UCC 12-4-12

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.
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science

2. Course prefix, number and complete title of course: COSC 628 - Applications of Construction Law

3. Change requested
   a. Prerequisite(s): From: ___________________________ To: ___________________________
   b. Withdrawal (reason): ___________________________
   c. Cross-list with: ___________________________
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked: ___________________________

5. Complete current course title and current catalog course description: Applications of Construction Law. Review of most common areas of law applied to the industry; application of this law to case studies; introduction to analytical processes needed to argue legal issues and claims; review of dispute resolution methods and ethics in the construction industry.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Construction Contracts and Risk Management. Advanced construction law, contracts, and risk management applicable to construction management; identification of common disputes and construction risks among the owner, design professionals, and contractor; analysis of construction contracts with an emphasis on troublesome provisions and solutions; demonstration of tools of negotiation and dispute resolution; ethics in construction.

7. a. As currently in course inventory:

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Approval recommended by:

Prof. Joe Horlen
Department Head or Program Chair (Type Name & Sign) 12-21-12

Prof. Leslie Feigenbaum
Chair, College Review Committee 10-29-12

Dr. Jorge Vargas
Dean of College 10-29-12

Submitted to Coordinating Board by:

Chair, GC or UCC 12-6-12

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
Curticular Services — 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science

2. Course prefix, number and complete title of course: COSC 631 - Supervision of the Construction Workforce

3. Change requested
   a. Prerequisite(s): From: __________________________ To: __________________________
   b. Withdrawal (reason): __________________________
   c. Cross-list with: __________________________
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description: Supervision of the Construction Workforce. Individual and group workforce behavior as it affects construction productivity; unique motivational and demotivational behavior characteristics; models of supervisory practice; effect of goal setting, management participation, work incentives and other reinforcers on construction workers.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Advanced Productivity and Lean. Introduction to lean history, concepts and methods; deduction of basic training modules in lean project delivery; application of lean management in construction projects.

7. a. As currently in course inventory:

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<th>Title (excluding punctuation)</th>
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Approval recommended by:

Prof. Joe Horlen
Department Head or Program Chair (Type Name & Sign) Date

Prof. Leslie Feigenbaum
Chair, College Review Committee Date

Dr. Jorge Vargas
Dean of College Date

Chair, GC or UCC Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services
Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Texas A&M University
Departmental Request for a Change in Course
Undergraduate ∙ Graduate ∙ Professional

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 633 - International Construction Contracting
   Attach a brief supporting statement for changes made to items 3a thru 3d, and 6 below.
3. Change requested
   a. Prerequisite(s): From: ___________________________ To: ___________________________
   b. Withdrawal (reason): New curriculum in which this course is no longer going to be offered.
   c. Cross-list with: ___________________________
      Cross-listed courses require the signature of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.
4. For informational purposes only, please indicate course number if this course will be stacked: ___________________________
5. Complete current course title and current catalog course description:

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):

7. a. As currently in course inventory:

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   Approval recommended by:
   Prof. Joe Hulen, Chair, College Review Committee, Date: 10/24/12
   Dr. Jorge Vargas, Dean of College, Date: 10/29/12

   Submitted to Coordinating Board by:
   Chair, CC or UCC, Date: 12/4/12

   Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
   Curricular Services – 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 641 - Construction Management Communications
3. Change requested
   a. Prerequisite(s): From: ___________________________ To: ___________________________
   b. Withdrawal (reason): New curriculum in which this course is no longer going to be offered.
   c. Cross-list with: ___________________________

   Cross-listed courses require the signature of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.
4. For informational purposes only, please indicate course number if this course will be stacked: ___________________________
5. Complete current course title and current catalog course description:
6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):
7. As currently in course inventory:

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<th>Level</th>
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</table>

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

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

   Submitted to Coordinating Board by: Associate Director, Curricular Services

   Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu
   Curricular Services – 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science

2. Course prefix, number and complete title of course: COSC 642 - Web-Based Construction Data Management

3. Change requested
   a. Prerequisite(s): From: _______________ To: _______________
   b. Withdrawal (reason): ____________________________
   c. Cross-list with: _______________ (Cross-listed courses require the signature of both department heads)
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will bestacked:

5. Complete current course title and current catalog course description: Web-Based Construction Data Management. A comprehensive introduction to the principles and techniques of information systems and data communication within the construction industry; a technical overview of the concepts of information systems, data transmissions and network-based technologies employed in the design and management of construction communication networks.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Construction Information Technology. Exploration of emerging technologies for the construction industry including hardware and software systems such as BIM, RFID, Wireless/Mobile, information systems, construction specific programs, and information strategy planning; using information strategy planning by owners and contractors to effectively enhance the management of business entities and projects in construction.

7. a. As currently in course inventory:

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Approval recommended by:

Prof. Joe Horlen
Department Head or Program Chair (Type Name & Sign) Date

Prof. Leslie Feigenbaum
Chair, College Review Committee Date

Dr. Jorge Vasquez
Dean of College Date

Chair, GC or UCC Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services

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

Date Effective Date
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science

2. Course prefix, number and complete title of course: COSC 644 - Systems Approach to Construction Management

3. Change requested
   a. Prerequisite(s): From: ____________________________ To: ____________________________
   b. Withdrawal (reason): ____________________________
   c. Cross-list with: ____________________________

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

   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.

   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked: ____________________________


6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Advanced Construction Systems. Theoretical, practical, and strategic development in contemporary construction systems; exploration of state-of-the-art innovations in environmental control systems, structural principles and practices; integration of innovations with information technologies, and development of additional insights.

7. a. As currently in course inventory:

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Approval recommended by:

Prof. Joe Horlen  
Department Head or Program Chair (Type Name & Sign)  
Date 11/24/12

Prof. Leslie Feigenbaum  
Chair, College Review Committee  
Date 10/24/13

Dr. Jorge Vargas  
Dean of College  
Date 12-6-13

Submitted to Coordinating Board by:

Chair, GC or URC  
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 Change in Course
Undergraduate • Graduate • Professional
Submit original form and attachments

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 648 - Design-Build Project Delivery
3. Change requested
   a. Prerequisite(s): From: __________________________ To: __________________________
   b. Withdrawal (reason): __________________________
   c. Cross-list with: __________________________
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.
4. For informational purposes only, please indicate course number if this course will be stacked: __________________________
5. Complete current course title and current catalog course description: Design-Build Project Delivery. Overview and analysis of the design-build project delivery process utilizing case studies; emphasis on understanding alternative project delivery systems evolving in the design and construction industries.
6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Graduate Capstone. For students preparing to enter the construction industry; project and program management of construction projects; winning new work; construction company creation, operations and change accommodation; leadership and management; risk management; managing people; using technology; considering the environment; and the application of lean and target value construction.
7. a. As currently in course inventory:

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   Approval recommended by:
   Prof. Joe Horelik
   Department Head or Program Chair (Type Name & Sign) Date: 10/24/12
   Prof. Leslie Feigenbaum
   Chair, College Review Committee Date: 10/24/12
   Dr. Jorge Vareaga
   Dean of College Date: 10/24/12
   (if cross-listed course)

   Submitted to Coordinating Board by:
   Chair, GC or UCO Date: 12-4-12

   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 Change in Course
Undergraduate • Graduate • Professional
Submit original form and attachments

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science

2. Course prefix, number and complete title of course: COSC 650 - Introduction to Construction Visualization

3. Change requested
   a. Prerequisite(s): From: ___________________________ To: ___________________________
   b. Withdrawal (reason): ___________________________
   c. Cross-list with: ___________________________

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

   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.

   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked: ___________________________

5. Complete current course title and current catalog course description: Introduction to Construction Visualization.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Advanced Construction Visualization.

7. a. As currently in course inventory:

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   Approval recommended by:

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<th>Date</th>
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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.
COURSE
Title and Number: COSC 650 Advanced Construction Visualization
Term: Fall 2013
Meeting Times and Locations: 601 Lecture: TBA; Location: TBA
Instructional Type and Method: Lecture; Traditional, Face-to-Face

DESCRIPTION AND PREREQUISITES
(3-0) Credit 3. Introduction to the theory and application of 3-D computer models in the design/build construction process; creation, positioning in 3-D space, and linking of building components to a database record; creation of a wide range of construction related information useful in controlling project quality.

PROGRAM LEARNING OUTCOMES APPLICABLE TO THIS COURSE
(Outcome #1) Demonstrate critical thinking and creativity
(Outcome #2) Demonstrate complex problem solving and decision making
(Outcome #4) Be able to use information and communication technology
(Outcome #6) Have a working knowledge of current issues in construction
(Outcome #9) Be able to apply advanced project management principles and practices to construction projects

COURSE STUDENT LEARNING OUTCOMES
Upon completion of the course, students will be able to:
1. Use BIM for construction project acquisition, cost estimation, constructability analysis, quality control, and facilities management.
2. Use BIM to enhance communication in construction.
3. Prepare a BIM implementation plan.
4. Generate the Bill of Materials and other reports from BIM models.
5. Incorporate concepts of LEED certification and facility management into a BIM model.
6. Practice efficient and effective exchange of data between Revit and other construction programs.

INSTRUCTOR INFORMATION
Name: TBA
Phone Number: TBA
Email Address: TBA
Office Hours: TBA
Office Location: TBA
TEXTBOOKS

Required

Reference

GRADING POLICIES

Final Grades will be awarded based on the following:

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Major Assignments and Values
1. Class Project 1 (3D modeling): 20%
2. Class Project 2 (cost estimation): 20%
3. Class Project 3 (constructability analysis): 20%
4. Class Project 4 (communication): 20%
5. Class Project 5 (facility management): 20%
6. Extra credit: As per the instructor’s discretion

CALENDAR OF ACTIVITIES AND MAJOR ASSIGNMENTS

Lecture Schedule
This is a tentative schedule and is subject to change at the discretion of the instructor.

Weeks 1-4: Creation of the Building Information Model; Class Project 1
Week 5: BIM for project acquisition
Weeks 6-7: BIM for cost estimation; Class Project 2
Weeks 8-9: BIM for clash detection
Weeks 10-11: BIM for constructability analysis; Class Project 3
Week 12: BIM for quality control
Week 13: BIM for communication; Class Project 4
Week 14: BIM for facility management; Class Project 5

SPECIAL PROVISIONS

Americans with Disabilities Act (ADA) Policy Statement
The American’s with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability
requiring an accommodation, please contact the Department of Disability Services in Cain Hall B118, call 845-1637, or e-mail disability@tamu.edu.

**Academic Integrity**

Misconduct in research or scholarship includes fabrication, falsification, or plagiarism in proposing, performing, reviewing, or reporting research. It does not include honest error or honest differences in interpretations or judgments of data. Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one's work, should the instructor request it, is sufficient grounds to initiate an academic dishonesty case. 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."

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.

**Absences**

Rules concerning excused absences may be found at [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07). In particular, except for absences due to religious obligations, the student must notify his or her instructor in writing (acknowledged e-mail message is acceptable) prior to the date of absence if such notification is feasible. By state law, if a student misses class due to an obligation of his or her religion, the absence is excused. A list of days of religious obligation for the coming semester may be found at [http://student-rules.tamu.edu/append4](http://student-rules.tamu.edu/append4).

**Disruptive Behavior**

If a student's behavior in class is sufficiently disruptive to warrant immediate action, the instructor is entitled to remove a student on an interim basis, pending an informal hearing with the Head of the Department offering the course. This hearing must take place within three working days of the student's removal. This rule and supporting information may be found at [http://student-rules.tamu.edu/rule21](http://student-rules.tamu.edu/rule21).

**Copyright**

Dr./Prof. TBA reserves copyright to all materials used in this course. This means all materials generated for this class, which includes but is not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy any material, unless expressly granted written permission.
Defacement of University Property
"It is unlawful for any person to damage or deface any of the buildings, statues, monuments, trees, shrubs, grasses, or flowers on the grounds of any state institutions of higher education (Texas Education Code Section 51.204)" The words damage or deface refer specifically to any and all actions, whether direct or indirect, that either diminish the value or mar the appearance of the physical environment.
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 662 - Contemporary Housing Production: Theory and Practice

   Attach a brief supporting statement for changes made to items 3a through 6 below.

3. Change requested
   a. Prerequisite(s): From: ____________________________ To: ____________________________
   b. Withdrawal (reason): New curriculum in which this course is no longer going to be offered.
   c. Cross-list with: ____________________________

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

   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.

   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description:

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):

7. a. As currently in course inventory:

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   Approval recommended by:

   Prof. Joe Horlen
   Department Head or Program Chair (Type Name & Sign) Date

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

   Submitted to Coordinating Board by:

   Associate Director, Curricular Services

   Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
   Curricular Services – 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
* Submit original form and attachments *

Form Instructions

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

2. Course prefix, number and complete title of course: COSC 663 - Sustainable Construction

3. Change requested
   a. Prerequisite(s): From: ____________________________ To: ____________________________
   b. Withdrawal (reason): ____________________________
   c. Cross-list with:

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

   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.

   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked: ____________________________

5. Complete current course title and current catalog course description: Sustainable Construction. How sustainable construction materials and methods contribute to meeting the needs of the present without compromising the ability of future generations to meet their own needs; identifies and analyzes those international, national and local programs promoting sustainable construction; characterizes the components of successful sustainable construction projects.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Sustainable Construction. Contribution of materials and methods to meeting the needs of the present without compromising the ability of future generations to meet their own needs; overview of international, national and local programs promoting sustainable construction; characteristics of the components of successful sustainable construction projects; theories and practices through case studies.

7. a. As currently in course inventory:

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<th>FICE Code</th>
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   Approval recommended by:

   Prof. Joe Horlen  Date

   Department Head or Program Chair (Type Name & Sign)

   Prof. Leslie Feigenbaum  Date

   Chair, College of Science

   Dr. Jorge Vargas  Date

   Dean of College

   Submitted to Coordinating Board by:

   Chair, GC or UGC  Date

   Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
Curricular Services – 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
Submit original form and attachments.

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 664 - Construction Safety Management
   Attach a brief supporting statement for changes made to items 3a, item 3b, and 3c below.
3. Change requested
   a. Prerequisite(s): From: ___________________________ To: ___________________________
   b. Withdrawal (reason): New curriculum in which this course is no longer going to be offered.
   c. Cross-list with: ___________________________
   Cross-listed courses require the signature of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 4; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.
4. For informational purposes only, please indicate course number if this course will be stacked: ___________________________
5. Complete current course title and current catalog course description:

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):

7. a. As currently in course inventory:

   Prefix | Course # | Title (excluding punctuation) |
   COSC  | 664     | CONSTRUCTION SAFETY MGMT |

   Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | HEC Code | Level |
   03 | 00 | 00 | 03 15 00 10 00 19 07 17 00 03 63 32 5

   Change to:

   Prefix | Course # | Title (excluding punctuation) |
   COSC  | 664     | CONSTRUCTION SAFETY MGMT |

   Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | HEC Code | Level |
   03 | 00 | 00 | 03 15 00 10 00 19 07 17 00 03 63 32 5

   Approval recommended by:

   Prof. Joe Horlen
   Department Head or Program Chair (Type Name & Sign) Date

   Prof. Leslie Feigenbaum
   Chair, College Review Committee Date

   Dr. Jorge Vance
   Dean of College Date

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

   Submitted to Coordinating Board by:

   Associate Director, Curricular Services
   Date Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services – 02/11
Texas A&M University  
Departmental Request for a Change in Course  
Undergraduate • Graduate • Professional
Submit original form and attachments

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 665 - Earth Construction
3. Change requested
   a. Prerequisite(s): From: To:
   b. Withdrawal (reason): New curriculum in which this course is no longer going to be offered.
   c. Cross-list with:
      Cross-listed courses require the signature of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.
4. For informational purposes only, please indicate course number if this course will be stacked:
5. Complete current course title and current catalog course description:

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):

7. a. As currently in course inventory:

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Approval recommended by:

Prof. Joe Horlen  
Department Head or Program Chair (Type Name & Sign)  
Date

Prof. Leslie Feigenbaum  
Chair, College Review Committee  
Date

Dr. Jorge Varela  
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 – 02/11
Texas A&M University  
Departmental Request for a Change in Course  
Undergraduate • Graduate • Professional  
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 670 - Facilities Management
   
   Attach a brief supporting statement for changes made to items 3a through 6, and 7 below.
3. Change requested  
   a. Prerequisite(s): From: __________________________ To: __________________________
   b. Withdrawal (reason): __________________________
   c. Cross-list with: __________________________
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.
4. For informational purposes only, please indicate course number if this course will be stacked: __________________________
6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Facility Asset Management. Fundamentals of facility asset management and property management including concepts, theories, and principles of design, construction, accounting, finance and management of the built environment; an overview of a project throughout its entire life cycle from various perspectives including the owner, users, designers, constructors and facility management personnel.
7. a. As currently in course inventory:  
   
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   Approval recommended by: Prof. Joe Horlen  
   Department Head or Program Chair (Type Name & Sign)  
   Date: 10/26/12

   Prof. Leslie Feigenbaum  
   Chair, College Review Committee  
   Date: 10/26/12

   Dr. Jorge Vargas  
   Dean of College  
   Date: 10/26/12

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

   Submitted to Coordinating Board by:  
   Chair, CC or UCC  
   Date  
   Effective Date: 12-6-12

Associate Director, Curricular Services  
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 Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 672 - Introduction to Facility Management Data Systems

Attach a brief supporting statement for changes made to items 3a thru 5, and 6 below.

3. Change requested
   a. Prerequisite(s): From: ____________________________ To: ____________________________
   b. Withdrawal (reason): New curriculum in which this course is no longer going to be offered.
   c. Cross-list with: ____________________________

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

d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.

e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description:

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):

7. a. As currently in course inventory:

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Approval recommended by:
Prof. Joe Horlen
Department Head or Program Chair

Prof. Leslie Feigenbaum
Chair, College Review Committee

Dr. Jorge Vasquez
Dean of College

Submitted to Coordinating Board by:
Associate Director, Curricular Services

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
Curricular Services – 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science

2. Course prefix, number and complete title of course: COSC 674 - Facility Energy Management

3. Change requested
   a. Prerequisite(s): From: ________________________ To: ________________________
   b. Withdrawal (reason): New curriculum in which this course is no longer going to be offered.
   c. Cross-list with:

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

   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.

   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked: ________________________


6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):

7. a. As currently in course inventory:

   Prefix | Course # | Title (excluding punctuation) |
   COSC   | 674      | FACILITY                     |
   Energy Management

   Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | HCE Code |
   0     | 3   | 0   | 0                  | 16          | 0        |

   b. Change to:

   Prefix | Course # | Title (excluding punctuation) |

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

   Approval recommended by: Prof. Joe Horlen Date

   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: Chair, CoE or UCO Date

   Associate Director, Curricular Services Date

   Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
   Curricular Services – 02/11
Texas A&M University  
Departmental Request for a Change in Course  
Undergraduate • Graduate • Professional  
• Submit original form and attachments •

Form Instructions

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

2. Course prefix, number and complete title of course: COSC 681 - Seminar

3. Change requested
   a. Prerequisite(s): From: None  To: Graduate Classification
   b. Withdrawal (reason): ____________________________________________________________
   c. Cross-list with: Cross-listed courses require the signature of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked: ____________________________________________________________

5. Complete current course title and current catalog course description: Seminar. Discussion and review of degree requirements and current practices in construction management.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Seminar. Discussion and review of degree requirements, career opportunities, and current research activities in construction management.

7. a. As currently in course inventory:

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   Approval recommended by:  
   Prof. Joe Horlen  [Signature] [10/26/12]  
   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:  
   Chair, GO or UCC  [Signature] [12-6-12]  
   Date  Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-6201 or sandra-williams@tamu.edu.

Curricular Services – 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 684 - Professional Internship

3. Change requested
   a. Prerequisite(s): From: None To: Graduate Classification; Approval of graduate coordinator; Approval of internship coordinator
   b. Withdrawal (reason):
   c. Cross-list with:
      Cross-listed courses require the signature of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.
4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description: Professional Internship. Internship consisting of 400-600 hours with a construction or construction related company; work experience must expose student to construction activities; pre-approval required; internship report required; post-approval by industry representative and internship advisor.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Professional Internship. Approximately 400-600 hours with a construction or construction-related company that exposes the student to construction-related activities; an initial report, monthly progress reports, a final report, and a final completion letter are required.

7. a. As currently in course inventory:

   Prefix | Course # | Title (excluding punctuation) | Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | FICE Code | Level
   COSC 684 PROFESSIONAL INTERNSHIP | 0 3 0 0 0 3 5 2 0 2 0 5 0 1 6 0 7 1 7 0 0 3 6 3 2 5

   b. Change to:

   Prefix | Course # | Title (excluding punctuation) | Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | Acad. Year | FICE Code
   | | | | | | | | 0 0 3 6 3 2

   Approval recommended by:
   Prof. Joe Horlen 10/24/12
   Department Head of Program Chair (Type Name & Sign) Date

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

   Submitted to Coordinating Board by:
   Chair, OC 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 – 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science

2. Course prefix, number and complete title of course: COSC 690 - Theory of Research in Construction Management

3. Change requested
   a. Prerequisite(s): From: Graduate Classification To: STAT 651 or concurrent enrollment
   b. Withdrawal (reason): 
   c. Cross-list with: (Cross-listed courses require the signature of both department heads.)
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description: Theory of Research in Construction Management. Introduction to research, research tools, proposal writing and research reports; emphasis placed on research planning and design; review of literature through qualitative and quantitative research methodologies; emphasis on defining research problems in construction science and the development of research proposals.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Theory of Research in Construction Management. Introduction to research, research tools, proposal writing and research reports; emphasis on research planning and design, conducting a comprehensive review of literature, quantitative and qualitative research methodologies, defining research problems in construction science, and the development of research proposals.

7. a. As currently in course inventory:
   
   Prefix Course # Title (excluding punctuation) 
   COSC 690 RESEARCH THEORY
   Lect. Lab SCH CIP and Fund Code Admin. Unit FICE Code Level
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   b. Change to:

   Prefix Course # Title (excluding punctuation) 
   COSC 690 THEORY OF RESEARCH
   Lect. Lab SCH CIP and Fund Code Admin. Unit Acad. Year FICE Code Level
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   Approval recommended by: Prof. Joe Horlen
   Department Head or Program Chair (Type Name & Sign) 12-6-12
   Prof. Leslie Feigenbaum
   Chair, College Review Committee Date
   Dr. Jorge Vargas
   Dean of College Date

   Department Head or Program Chair (Type Name & Sign) (if cross-listed course) 12-6-12
   Submitted to Coordinating Board by: Chair, CEC or UCC Date

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

   Curricular Services – 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science

2. Course prefix, number and complete title of course: COSC 691 - Research

Attach a brief supporting statement for changes made to items 3 through 6 below.

3. Change requested
   a. Prerequisite(s): From: None To: COSC 690 or concurrent enrollment; Approval of graduate coordinator
   b. Withdrawal (reason):
   c. Cross-list with: Cross-listed courses require the signature of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description: Research. Credit 1 or more each semester.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):

7. a. As currently in course inventory:
   
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<thead>
<tr>
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<tbody>
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<td>RESEARCH</td>
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</table>

   Approval recommended by:
   
   Prof. Joe Horlen [Signature] 12/12/12
   Department Head or Program Chair (Type Name & Sign)
   Date

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

   Submitted to Coordinating Board by:
   
   Associate Director, Curricular Services

   Date
   Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services – 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Construction Science
2. Course prefix, number and complete title of course: COSC 693 - Professional Study

Attach a brief supporting statement for changes made to items 3a) through 3c) below.

3. Change requested
   a. Prerequisite(s): From: Approval of major advisor To: COSC 690 or concurrent enrollment; Approval of graduate coordinator
   b. Withdrawal (reason): 
   c. Cross-list with: Cross-listed courses require the signature of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.
4. For informational purposes only, please indicate course number if this course will be stacked: 

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):

7. a. As currently in course inventory:

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<th>Title (excluding punctuation)</th>
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<th>Acad. Year</th>
<th>FICE Code</th>
<th>Level</th>
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Approval recommended by:

Prof. Joe Horlen [Signature] 12-4-12

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

Chair, College Review Committee

Prof. Leslie Feigenbaum [Signature] 10-9-12

Dean of College

Dr. Jorge Vazquez [Signature] 12-4-12

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

Submitted to Coordinating Board by:

Chair, GC or UCC

[Signature] 12-4-12

Submitted to Coordinating Board by:

Date Effective 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 – 02/11
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
Submit original form and attachments

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

2. Course prefix, number and complete title of course:
   EDCI 617 Early Childhood Mathematics

3. Change requested
   a. Prerequisite(s): From: _________________________ To: _________________________
   b. Withdrawal (reason):
   c. Cross-list with:
   Cross-listed courses require the signature of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description:
   Early Childhood Mathematics: Development of mathematical concepts in young children from developmental and mathematical perspectives. Prerequisite: Graduation classification.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):
   Early Childhood Mathematics and Science: Development of mathematical and science concepts in young children from developmental and scientific perspectives. Prerequisite: Graduate classification.

7. a. As currently in course inventory:
   Prefix  Course #  Title (excluding punctuation)
   EDCI 617 EARLY CHILDHOOD MATH
   Lect  Lab  SCH  CIP and Fund Code  Admin. Unit  HCC Code  Level
   0 3 0 0 0 3 1 3 1 3 1 1 0 0 2 2 8 0 4
   b. Change to:
   Prefix  Course #  Title (excluding punctuation)
   EDCI 617 EARLY CHILD MATH & SCI
   Lect  Lab  SCH  CIP and Fund Code  Admin. Unit  Acad. Year  HCC Code
   0 3 0 0 0 3 1 3 1 3 1 1 0 0 2 2 8 0 4 1 4 0 0 3 6 3 2

Approval recommended by:

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

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

Doug Palmer  Mark Zuber
Dean of College  Chair, GC or UCC
Date  Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services
Date  Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8801 or sandra-williams@tamu.edu.
Curricular Services – 02/11
Course Syllabus EDCI 617
Early Childhood Mathematics and Science

Time TBA 5:45 - 8:05 PM

Dr. Mary M. Capraro
Office: Harrington 421
Office Hours: TBA
Office Phone: (979) 845-8384
Cell Phone: (979) 575-6520
e-mail: mmcapraro@coe.tamu.edu

Course Description
This course will be based on the National Council of Teachers of Mathematics (NCTM) Principles and Standards for School Mathematics (2000). Students will be involved in hands-on activities enabling them to construct their own knowledge through an inquiry based pedagogical and content approach that incorporates pattern and change concepts from grades K-12. Research will be the cornerstone for developing ideas and modeling exemplary teaching practices. This course will equip future teacher-leaders with adequate resources to create a classroom environment where all of their students will have access to high-quality, engaging mathematics instruction. The learning atmosphere will be a place where students will be able to use mathematics principles and processes in making everyday decisions and solve real-world algebraic problems in both cooperative and individual activities.

1. Course Objectives
The objectives of the course are to:
- Develop understandings of early childhood mathematics and science in PK-4 mathematics education;
- Learn and practice effective pedagogical methods and strategies;
- Understand the research based literature regarding developmental stages for early childhood;
- Explore and develop skills in the use of relevant technology for teaching and learning in early childhood;
- Critically examine the research based literature dealing early childhood mathematics and science for trends and theoretical constructs;
- Integrate literature on the teaching and learning by early childhood students with research based best practices.

Prerequisites
Graduate Admission

2. Required Texts and Resources

**Suggested Texts and Resources**


**Recommended Resources**

3. Attendance
Attendance of individuals in the class is required, and university rules regarding absences will be followed. Exchange of ideas is essential for the learning that occurs in this class. In most class meetings, students work in pairs and/or in groups. The absence of one individual affects the performance of all persons working in the group. If you are absent, it is each student's responsibility to make up the work and provide evidence that the absence was excused. Without this evidence, the absence will be considered unexcused. Two tardies, whether arriving late or leaving early equals one absence. The instructor reserves the right to lower a person's grade by one letter for every unexcused absence or combinations of tardies and absences.

4. Students with Disabilities /ADA
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protections for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities in Room B-118 in the Cain Building, of the Cain Building. The telephone number is 845-1637.

5. Departmental Statement on Diversity
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.

6. Statement of Plagiarism
   The handouts used in the course are copyrighted. By "handouts," I mean all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts, unless I expressly grant permission. As commonly defined, plagiarism consists of passing off as one's own the ideas, words, writings, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of that person. Plagiarism is one of the worst academic offences, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated.

   If you have any questions regarding plagiarism, please consult the latest issue of the Texas A & M University Student Rules, under the section "Scholastic Dishonesty."

7. Assignments
   The following format is required for every assignment submitted. Deviating from the format may result in reduced points, returned paper, or rejection of the assignment completely. Absolutely no exceptions will be made. All submissions will be submitted e-mail, double-spaced, in either 12 point Helvetica, or 12 point Times New Roman font, and include a cover page specifying the assignment, due date, professor's name, and student's name. All papers are to follow the guidelines of the Publication Manual of the American Psychological Association (2001).

   Journal Articles (25%)
   Identify an area of interest and locate research support and published articles in early childhood that provide a balanced perspective of your topic. You may use ten published articles from any of the top research or teacher journals including but not limited to: Journal for Research in Mathematics Education, School Science and Mathematics, Teaching Children Mathematics, Mathematics Teaching in the Middle School, Mathematics Teacher, Early Childhood Journal, Science and Children, For the Learning of Mathematics, or Focus on Learning Problems in Mathematics. ERIC documents or statistical journals when applicable are acceptable). Communicate what you learn from the articles via PowerPoint® using interactive demonstrations of the concepts.

   Multi-Sensory Presentation (25%)
   Become a specialist, learning all the manifestations of one manipulative for teaching early childhood students and present it to the class. Appropriate technology should be integrated into your presentation. The goal is to illustrate the research-based pedagogy, accurately convey the content being demonstrated, and demonstrate an understanding of the research base. You must actively involve the class in the presentation and provide appropriate electronic and paper handouts. Each person will be allocated a maximum 30 minutes of class time for this presentation. Manipulatives will be chosen during the first/second night of class. Each person must select a different manipulative but reasonable requests to change their selection will be permitted as long as the requested change does not impact any other students or duplicate a manipulative.

   Inquiry Paper- Critical Examination of Research Based Literature (50%)
   Develop a position paper advocating your position on integrating various representations, pedagogy, assessment, and ramifications for Texas early childhood teachers. This assignment should reflect your experiences in the course, the materials you have read, and the limitations and benefits of the various
representations presented— all tempered by your individual real-world experiences of teaching in PK-4 settings. Specifically, address the perception that representations are best suited for the elementary grades and that teaching algorithmically or conceptually has no impact on mathematics learning for students or any difference in required teacher knowledge.

8. Course Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Task</th>
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<td>Methods -vs- Content</td>
<td>Huetinck &amp; Munshin 1</td>
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<td>Process -vs- Product</td>
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<td>Identifying strengths and interests</td>
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<tr>
<td>2. 1/31</td>
<td>Mathematics Library Orientation</td>
<td>Survey of available materials for teaching algebra in K-4</td>
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<td>Home-made materials</td>
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<td>, Longs &amp; Shorts,</td>
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<td>Hands on Equations, Function Machines</td>
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<td>Van de Walle 8</td>
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<td>Kilpatrick, Martin, &amp; Schifter 9, 10</td>
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<td>6. 2/28</td>
<td>Science Pedagogy in Early Childhood</td>
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<td>7. 3/7</td>
<td>PBL for Early Childhood</td>
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<td>11. 4/4</td>
<td>Manipulative Presentations</td>
<td>research based practices (Discuss Options)</td>
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<td>12. 4/11</td>
<td>Effective Instruction and Teaching All Children (Discuss Options)</td>
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<td>Exceptional Education</td>
<td>Van de Walle 23</td>
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<td>Multicultural Education</td>
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<td>13. 4/18</td>
<td>Review of Literature on</td>
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Early Childhood, Equations

14. 4/25 Integrating Research-based Practices, Manipulatives, and High-stakes testing Individual Presentations

15. 5/2 Individual Presentations

9. Grades
Percentages of the course grade are listed next to each requirement. Grades will be assigned as follows:

- 90%-100%   A
- 80%-89%     B
- 70%-79%     C
- 60%-69%     D

10. Late Assignments
Only assignments submitted complete and on time will be considered for full credit. Any assignments turned in one week late will receive zero points.
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions

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

2. Course prefix, number and complete title of course: EPSY 604: Career Assessment and Placement Services

3. Change requested
   a. Prerequisite(s): From: ___________________________ To: ___________________________
   b. Withdrawal (reason):
      ___________________________
   c. Cross-list with:
      ___________________________
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description: Career Assessment and Placement Services: Theory and techniques of selecting and using career assessment instruments in the career development process; planning and operating placement programs for education and employment.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Career Counseling in Schools: Understanding the culturally competent career counseling theory, assessment and skills as applied to the diverse populations in schools.

7. a. As currently in course inventory:

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Approval recommended by: George Cunningham, Ph.D.
Chair, College Review Committee

Submitted to Coordinating Board by: George Cunningham, Ph.D.
Chair, GC or OCC

Questions regarding this form should be directed to Sandra Williams at 843-8201 or sandra-williams@tamu.edu
Curricular Services – 02/11
EPSY 604 CAREER COUNSELING IN SCHOOLS
2013 SUMMER SESSION II
JULY 9TH - AUGUST 12TH

Instructor: Lizette Ojeda, Ph.D.  
Email: LizetteOjeda@tamu.edu  
Office: 710 Harrington Tower  
Class Time: Tuesdays & Thursdays  
Class Location: online via eLearning  
Office Hours: by appointment

COURSE OBJECTIVES AND DESCRIPTION

The main purpose of this course is to develop an understanding of culturally competent career counseling theory, assessment, and skills as it applies to the diverse populations in the schools. Course goals include the following:

➢ To acquire knowledge of career theories and its application to culturally diverse school populations.
➢ To learn about career assessments and its application to culturally diverse school populations.
➢ To facilitate personal growth by:
  • increasing awareness of students' own career development.
  • examining personal biases about career and culturally diverse populations.

Prerequisite: approval of department head

COURSE FORMAT

This online course will consist of weekly readings, discussions, quizzes and assignments. Learning will mainly occur through weekly readings applied to online discussions, assignments, quizzes, and personal reflection.

STUDENT EXPECTATIONS

➢ Read assigned readings/videos in advance for every class.
➢ Check eLearning daily for any changes, updates, or announcements.
➢ Participate actively, thoughtfully, and respectfully in discussions. Merely agreeing with others does not count as active participation.
➢ Complete all assignments on your own and on time to avoid late penalties.
➢ Write coherently, checking for grammatical errors and sentence structure (This is very important for communication given the on-line nature of the course!)
➢ Maintain confidentiality of personal information within the class.
➢ Contact the instructor for any questions or concerns about the syllabus, responsibilities, or assignments.

LATE ASSIGNMENTS: Assignments must be completed by 11:59p.m. CST on the due date. Late assignments will not be accepted except in cases of University excused absences. For more information on the attendance policy please refer to student rule 7: http://student-rules.tamu.edu/rule07
REQUIRED TEXTS & READINGS


The following additional readings can be found on eLearning.

Chapter 5: Using Career Development Theories
Chapter 6: Cultural Competence in Testing
Chapter 7: Multiculturally Competent Career Counseling Skills

Chapter 3: Multicultural Career Exploration with Adolescent Females
Chapter 4: At-Risk Students
Chapter 5: High School Students in Transition
Chapter 6: Students with Severe Disabilities

EDUCATIONAL VIDEOS

In addition to readings, students will view videos to further grasp the course content. The links to videos can be found in eLearning.

COURSE ASSIGNMENTS

1. **Strong Interest Inventory Assessment**
   You will complete the on-line Strong Interest Inventory—adult version for your paper assignment. The link is provided on eLearning. Be sure to reserve at least X hours/minutes to complete the assessment without distraction. Results can be picked up at the CAC Heaton location. Send the instructor confirmation that you have picked up your results by **July 16**th.

2. **Daily Quiz**
   There will be a quiz assigned each class day based on the readings and any videos. There will be 10 quizzes and each will be graded on pass or fail. You earn 1 point for passing and 0 points for failing. Absolutely no collaborative work among students in responding to the quizzes will be tolerated. Doing so will be considered cheating and is subject to result in failing the course.

3. **News Article Presentation (20 minute presentation and discussion)**
   You will identify, read, and lead a discussion on a news article pertaining to a career-related issue specific culturally diverse school-age population, broadly defined. Examples of cultural groups are: boys, gifted students, English language learners, African Americans. (Note: It is important to keep in mind that we cannot lump an entire group together and make generalizations to all the group's members. However, often times there are particular issues that tend to be more salient for a given group.) An example of a career-related issue that you could find a news article on is the Dream Act, which is relevant to the cultural group of undocumented students. Another example is tracking in the schools for particular groups. You must inform the instructor about which topic and with which cultural group your selected news article will be on by **July 18**th.
Part A: Read and critically analyze the self-selected news article. Synthesize points made in the news article that you will present to the group.

Part B: Develop arguments for and against the stance of the news article. For example, if the article is arguing for, let's say, English only education. You will present arguments for that stance AND against it, regardless of what your own stance is. This will help you gain perspective on both sides of a given issue.

Part C: Develop thought provoking questions for meaningful group discussion. As the presenter for the day, you are responsible for leading the discussion portion of this assignment.

All parts of the assignment should be coherently presented using PowerPoint, which will be used to guide your online presentation. The news article must be posted at least 72 hours prior to your scheduled presentation so students can read it and be prepared for your presentation. On days when you are not the presenter, you are expected to have read the news article prior to the presentation given on it, and to be actively and fully engaged in discussion. The instructor will monitor the presentations to determine if students are contributing actively.

4. My Career Development Journey Paper (10-12pgs double spaced including references)
The purpose of this paper is to understand your own career development process and gain exposure to career assessment and interpretation.

Part A: Explore and discuss your career development journey during 3 developmental stages: elementary, middle, and high school years, as well as the implications of your career development during that time on your present and future career development. Use 2 theories to conceptualize your career development. In addition, answer relevant questions such as: What and who was most influential of your career development during elementary, middle school, and then high school? What did you want to be when you “grew up” during childhood and adolescence? How did you get to where you are today in your career? What barriers did you encounter in each of the 3 developmental stages?

Part B: Discuss your Strong Interest Inventory report and critically analyze and interpret the results, and provide implications. Make sure to report and interpret your RIASEC code. Also, consult O*Net Online under the Advanced Search tab to identify careers that match your abilities, interests, knowledge, and skills, as well as work activities, context, and values. This part of the project will help you learn how to conduct and interpret assessments, and how to use O*Net, a popular online career resource to help guide students in their career development.

This paper should not just be a "report" describing your career development journey and assessment results, but should consist of critical thought in how theory may explain certain career issues and its implications on your career development. For example, for Part A, do not simply state, "My family moved often and thus I had to attend several different high schools." Instead, also think critically about the implications of moving frequently, particularly during the adolescent years. Support your statements by citing theory and literature. In addition, the paper must be well organized, adhere to the page restriction, and written in APA 6th edition style, otherwise points will be deducted. This paper is due no later than August 6th.

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<tr>
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<th>Points</th>
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<tbody>
<tr>
<td>Consistent Active Participation</td>
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<tr>
<td>10 Daily Quizzes</td>
<td>20</td>
</tr>
<tr>
<td>News Article Presentation</td>
<td>25</td>
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<tr>
<td>My Career Development Journey Paper</td>
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<td>TOTAL</td>
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Grades by Points: A = 90 –100; B = 80 – 89; C = 70 – 79; F = 69 and below
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<th>DATE</th>
<th>READINGS/VIDEOS**</th>
<th>ASSIGNMENTS***</th>
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<tr>
<td><strong>Week 1</strong></td>
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<tr>
<td>July 9</td>
<td>Historical &amp; Theoretical Foundations: Gysbers &amp; Lapan, Ch. 1, 2; Evans Ch. 5</td>
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<td>July 11 An Organizational Framework and Evidence-Based Activities: Gysbers &amp; Lapan, Ch. 3, 4 Video: Super's Theory</td>
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<td>July 16</td>
<td>Designing, Delivering, Evaluating, &amp; Advocating for Strengths-Based Career Development in Schools: Gysbers &amp; Lapan, Ch. 5, 6, 7</td>
<td>Strong Interest Inventory Quiz 3</td>
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<td>July 18 Multicultural Career Development, Skills &amp; Assessment: Herring, Ch 1, 2; Evans Ch. 6, 7</td>
<td>News Article Topic Quiz 4</td>
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<td>Developmental Career Programs for Schools: Herring, Ch. 3, 4, 5</td>
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<td>July 25 Gender, Ethnicity, &amp; Sexual Orientation in Career Development: Herring, Ch. 6, 7, 8; Peterson Ch. 3</td>
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<td>Special Needs &amp; At-Risk Students: Herring, Ch. 9 Peterson Ch. 4, 6</td>
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<td>August 2 School-to-Work, Family Role on Career Development: Herring, Ch. 9; Peterson Ch. 5</td>
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<td>Cogent Areas of Career Development: Herring, Ch. 11, 12, 13</td>
<td>My Career Journey Paper Quiz 9</td>
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<td>August 9 Video: Equity-Focused School Counseling (2hrs 39 mins)</td>
<td>Quiz 10</td>
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*This is a tentative course outline and may be subject to change.
**The Evans and the Peterson chapters can be found in eLearning.
***All assignments are due on the indicated date by 11:59pm CST.
ACADEMIC INTEGRITY

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

SCHOLASTIC DISHONESTY

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 current issue of the Texas A & M University Student Rules, under the section, "Scholastic Dishonesty."

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

RESPECT STATEMENT

The faculty of the College of Education and Human Development value and respect diversity and the uniqueness of each individual. The faculty affirms its dedication to non-discrimination in our teaching, programs, and services on the basis of race, color, religion, gender, age sexual orientation, domestic partner status, ethnic or national origin, veteran status, or disability. The College of Education and Human Development at Texas A & M University is an open and affirming organization that does not tolerate discrimination, vandalism, violence or hate crimes. We insist that appropriate action be taken against those who perpetrate such acts. Further, the College is committed to protecting the welfare, rights, and privileges of anyone who is a target of prejudice or bigotry. Our commitment to tolerance, respect, and action to promote and enforce these values embraces the entire university community. In the spirit of shared responsibility, each University unit, student organization, and community member is encouraged to help make our campus, and this class, a welcoming place for all. Should you have any concerns related to respect for diversity or feel that you (or any others) are being discriminated against, please contact your departmental Ombudsperson, or the Department Head, or the College Ombudsperson.
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

Form Instructions
1. Request submitted by (Department or Program Name): Educational Psychology
2. Course prefix, number and complete title of course: EPSY 637: Qualitative Methods and Analysis
3. Change requested
   a. Prerequisite(s): From: ___________________________ To: ___________________________
   b. Withdrawal (reason): ___________________________
   c. Cross-list with: ___________________________
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.
4. For informational purposes only, please indicate course number if this course will be stacked: ___________________________
5. Complete current course title and current catalog course description: Qualitative Methods and Analysis. Methods of collecting qualitative data to answer educational or psychological questions including interviews, participant-observation, focus groups, and stimulated recall procedures; analysis and interpretation of data using Grounded Theory, case studies, and qualitative software.
6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): Qualitative Grounded Theory Methodologies. Methods of collecting qualitative data to answer educational or psychological questions using Grounded Theory methodologies; analysis and interpretation of data using Grounded Theory methodologies.

7. a. As currently in course inventory:

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Approval recommended by:

Victor Willis, Ph.D.
Department Head or Program Chair (Type Name & Sign) Date
George Cunningham, Ph.D.
Chair, College Review Committee Date
Victor Willis, Ph.D.
Dean of College Date
Mark Zoras, Ph.D.
Chair, GC or UCC Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services Date
Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
Curricular Services – 02/11
EPSY 637: Qualitative Grounded Theory Methodologies

Professor: Laura M. Stough, Ph.D.
lstough@tamu.edu
Department of Educational Psychology
709 Harrington
(979) 845-8257

Office Hours: Immediately following class or by appointment

Course Description:
Methods of collecting qualitative data to answer educational or psychological questions using grounded theory methodologies. Analysis and interpretation of data using grounded theory methodologies.

Prerequisites:
Graduate classification, introductory course in qualitative methods, and approval of instructor.

Course Objectives:
At the end of this course, students who have successfully completed the requirements will be able to:
- Understand the difference between grounded theory and other qualitative methods.
- Understand the difference between the multiple forms of grounded theory including traditional Grounded Theory, constructivist grounded theory, post-modern use of grounded theory, and situational analysis.
- Identify which research questions can be appropriately addressed using grounded theory.
- Analyze transcribed data from interviews, focus groups, and stimulated recall procedures using grounded theory analysis.
- Appropriate display results that have been derived through grounded theory analysis.

Required Texts:
3. Selected articles also will be assigned each week.

Attendance:
Attendance is essential as 40% of your grade in this class will be based on discussions and presentations that you do in class. In addition, much of what you will learn about grounded theory analysis will be through in-class simulations and activities. If you know you will be missing a class, please call me or leave a message on my voice mail. Each unexcused absence will result in 3 points being subtracted from your participation points. Please review University attendance policies at http://student-rules.tamu.edu/rule07.
Course Expectations:
Your grade will be based on a 100-point scale. For each assignment or exam, you will receive the amount of points described below. At the end of the semester I will assign a grade as follows:

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

While my expectations are high regarding written work and your participation during class, I am quite willing to answer any and all questions you might have about an assignment and to work with you in developing your ideas. My learning goals are that you 1) are able to appropriately design qualitative studies that use grounded theory, 2) can use grounded theory to collect and analyze qualitative data, 3) have a thorough understanding of the epistemology and development of the multiple lines of grounded theory analysis; and 4) you understand how to write up and display results obtained through grounded theory analysis. During Fall 2012 we will also examine the use of focus groups as a method of data collection when used in conjunction with grounded theory.

Assignments:  
Assignments should be handed in at the beginning of class to us on the day that they are due. They should be typed, completed to APA standards, and should follow the format described for that assignment. Late assignments (those handed in within one week of the due date) will receive half credit. After one week, late assignments are not accepted. For excused absences, make-up assignments can be arranged with the instructor for any assignment that is missed.

Points given for each assignment for the course follows:

1. Class participation 10 points
2. Analysis of qualitative articles 10 points
3. Presentation of qualitative article 5 points
4. NVivo Assignment 5 points
5. Preliminary project plan 20 points
6. Project presentation 20 points
7. Final project report 30 points

TOTAL 100 points

Class Participation:
Each week we will discuss at least one research article that uses grounded theory as a methodology. I expect you to read the article before class and that you are prepared to contribute frequently and knowledgeably to these discussions. We will be actively designing grounded studies and analyzing qualitative data in class and your participation in these activities are essential to mastering the objectives for this course. In addition, we will have class lectures delivered by researchers currently engaging in grounded theory research and I encourage you to engage these researchers with your questions.
Analysis of Qualitative Articles:

You will select, read, and write an analytical summary of two different articles from your field of discipline that use grounded theory and/or focus groups as methods or analyses. The focus of each analytical summary should be primarily on the method and analysis used in the article and an evaluation of the appropriateness of its use for the research questions identified by the author. Each of these summaries should be no longer than two pages. During one class during the semester you will prepare a brief presentation of no more than 10 minutes in which you give the class an overview of one of the articles but focus on the method and analysis that was used in the article.

NVIVO Coding Practice:

You will upload an individual participant or focus group transcript in the software system NVIVO using the computers in the EREL on the 7th floor of Harrington. After uploading the transcript, you will practice highlighting and identifying open codes and placing these codes in categories (NVIVO calls these “nodes”). You will 1) describe the procedure you went through to sort your transcript into open codes and then into categories/nodes, 2) identify any problems or reflection as you went through this process, 3) write a description of at least 5 categories developed by using this software on your data, and 4) evaluate how well NVIVO served in assisting you with analyzing your data. Write up your response in no more than two pages.

Qualitative Project:

The major assignment will be to develop, conduct, and write up the findings of a small qualitative research study. I will ask you to complete this assignment in stages, with a preliminary plan, a presentation, and a final report spread across the semester. This will be a class exercise- not a study that you should plan to submit for publication. However, do ensure that you erase personally identifying information about your participants on your transcripts and use pseudonyms.

Preliminary Plan: You will turn in a proposed project that uses one of two data collection methodologies- interviews or a focus group. For an interview project you must schedule and conduct at least 4 interviews and for a focus group project you must plan a group of at least four people for 1.5 hours. You should plan on taping your interviews or focus group and transcribing them yourself. For your final project you will analyze these transcripts using a grounded theory approach. Your description of your preliminary plan should include a theoretical overview, a statement of the problem, your research questions, your interview or focus group questions, a description of your methods, and your proposed procedures (much along the lines of a dissertation proposal) but should be no longer than 8 pages, including references.

Presentation: Your presentation will include whatever data and analysis you have collected up until that time. As such, it will be a “working presentation” and you are welcome to bring transcripts to share with the group. Your presentation should focus strongly on your method and analysis. Plan a presentation that lasts no more than 15 minutes. You may use PowerPoint, Prezi, visuals, posters, an activity, handouts- whatever will be communicate your process to the class.

Final Project: Your final project will include your rewritten proposal, along with your analysis, results, and conclusion. This part of your project should be no more than 20 pages, including references and diagrams. In the appendix you should include your transcripts, coding notes, and field notes.
College of Education and Human Development on Tolerance:
We, the faculty of the College of Education and Human Development, value and respect diversity and the uniqueness of each individual. The faculty affirms its dedication to non-discrimination in our teaching, programs, and services on the basis of race, color, religion, gender, age, sexual orientation, domestic partner status, ethnic or national origin, veteran status, or disability. The College of Education and Human Development at Texas A&M University is an open and affirming organization that does not tolerate discrimination, vandalism, violence, or hate crimes, and we insist that appropriate action be taken against those who perpetrate such acts. Further, the College is committed to protecting the welfare, rights, and privileges of anyone who is a target of prejudice or bigotry. Our commitment to tolerance, respect, and action to promote and enforce these values embraces the entire university community.

Academic Integrity Statement and Policy:
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Students with Special Needs:
Any student who could require assistance in the event of a necessary evacuation of the building in which this class is taught are asked to notify the instructor so that individuals can be identified to assist him/her during an evacuation.

Plagiarism Statement:
The handouts used in this course are copyrighted. By "handouts," I mean all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts, unless I expressly grant permission. As commonly defined, plagiarism consists of passing off as one's own the ideas, works, 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 issues of the Texas A&M University Student Rules, under the section "Scholastic Dishonesty."
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<th>Chapter Readings</th>
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<td>Introduction to GT methods Qualitative study design</td>
<td>FG: Chapter 1</td>
<td>Mills, Bonner, &amp; Francis</td>
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<td>2</td>
<td>Overview of focus groups Designing focus groups Questioning routes</td>
<td>FG: Chapters 2-4</td>
<td>McCarthy &amp; Stough</td>
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<td>3</td>
<td>Participants in focus groups Moderating Skills Analyzing FG results Reporting FGs</td>
<td>FG: Chapters 5-7</td>
<td>Koekoek, Knoppers, &amp; Stegeman Mactavish, MacKay, Iwasaki, &amp; Betteridge</td>
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<td>4</td>
<td>Styles of focus groups Special populations Alternative FG formats</td>
<td>FG: Chapters 8-13</td>
<td>Preliminary Project Plan Due Llewellyn &amp; Northway McNeill &amp; Sanders</td>
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<td>5</td>
<td>Essentials of GT History of GT Planning a GT study</td>
<td>GT: Chapters 1-2</td>
<td>Bryant &amp; Charmaz Stough &amp; Palmer</td>
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<td>6</td>
<td>Quality processes in GT Preparing for analysis Positionality and memos</td>
<td>GT: Chapters 3-4</td>
<td>Woodruff &amp; Schallert Dey</td>
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<td>7</td>
<td>Data generation &amp; collection Theoretical sampling</td>
<td>GT: Chapter 5</td>
<td>Triplett Hernandez</td>
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<td>8</td>
<td>Data analysis Diagramming</td>
<td>GT: Chapter 6</td>
<td>Saetermoe, et al. Breckenridge &amp; Jones</td>
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<td>9</td>
<td><strong>NVivo Presentation</strong> Theoretical integration Theoretical coding</td>
<td>GT: Chapter 7</td>
<td>Harry, Sturges, &amp; Klinger Peine &amp; Coleman</td>
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<td>Elaborating Analysis Analytical examples</td>
<td>GT: Appendix A</td>
<td>Weiss &amp; Lloyd Joo</td>
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<td>Advanced coding Presenting a grounded theory</td>
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<td>Elaborating Analysis Part II</td>
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<td>Writing up your research Dissertations or theses</td>
<td>GT: Chapter 8</td>
<td>Project Presentations Glaser (2009), vol. 8, no 3 Smart &amp; Igo</td>
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<td>14</td>
<td>Evaluating GT Applying GT Current debates and GT</td>
<td>GT: Chapter 9 GT: Chapter 10</td>
<td>Project Presentations Glaser (2009), vol. 8, no. 2 Bishop, Karageorghis, &amp; Loizou</td>
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Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

1. Request submitted by (Department or Program Name): Department of Information and Operations Management

2. Course prefix, number and complete title of course: INFO 631 - Business Component Design and Development

3. Change requested
   a. Prerequisite(s): From: Graduate classification in business or approval of instructor To: Graduate classification in business and knowledge of one programming language
   b. Withdrawal (reason): 
   c. Cross-list with: 
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description:
   Business Component Design and Development. Analysis and design of large application systems using component technologies; code and design reuse emphasized; issues of metadata, software repositories, DCOM and COBRA discussed.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):
   Information Systems Design and Development Project. Design and delivery of functional, multi-platform application system using current technologies; user interface design emphasized; issues of mobile device forms, software delivery, and development discussed.

7. a. As currently in course inventory:
   
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   Approval recommended by: 
   
   Rich Metters
   Department Head or Program Chair (Type Name & Sign) Date: 11/20/12

   Chair, College Review Committee
   Date: 

   Department Head or Program Chair (Type Name & Sign) Date: 12/06/12

   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 - 02/11
Texas A&M University

Departmental Request for a Change in Course
Undergraduate • Graduate • Professional

1. Request submitted by (Department or Program Name):
   Department of Information and Operations Management

2. Course prefix, number and complete title of course:
   INFO 631 - Business Component Design and Development

3. Change requested
   Attach a brief supporting statement for changes made to items 3a thru 3d, and 6 below:
   a. Prerequisite(s): From: INFO 628; graduate classification in business or approval of instructor
      To: Graduate classification in business and knowledge of one programming language
   b. Withdrawal (reason):
   c. Cross-list with:
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked:

5. Complete current course title and current catalog course description:
   Business Component Design and Development. Analysis and design of large application systems using component technologies; code and design reuse emphasized; issues of metadata, software repositories, DCOM and COBRA discussed.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):
   Information Systems Design and Development Project. Design and delivery of functional, multi-platform application system using current technologies; user interface design emphasized; issues of mobile device forms, software delivery, and development discussed.

7. a. As currently in course inventory:

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Course #</th>
<th>Title (excluding punctuation)</th>
</tr>
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<tr>
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<td>BUS COMPONENT DESIGN &amp; DEV</td>
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<th>Lect.</th>
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b. Change to:

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<tr>
<td>INFO</td>
<td>631</td>
<td>IS DESIGN &amp; DEVELOP Proj</td>
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Approval recommended by:

Rich Metters
Department Head or Program Chair (Type Name & Sign) Date
Chair, College Review Committee Date
Dean of College Date
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 – 02/11
Instructor: Dr. Aaron Becker
Office: Wehner 301-N
Phone: (979) 845-2253
E-Mail: abecker@mays.tamu.edu
Webpage: http://elearning.tamu.edu
Office Hours: TBD

CATALOG DESCRIPTION

Design and delivery of functional, multi-platform application system using current technologies; user interface design emphasized; issues of mobile device forms, software delivery, and development discussed.

COURSE PREREQUISITES

Graduate classification in business and knowledge of one programming language

COURSE OVERVIEW AND OBJECTIVES

This course will focus on the element of design in the development of information systems applications. Specific course objectives are to help students:

1. Recognize the importance of interface design to the success of an information systems project
2. Comprehend how different elements of design (such as layout, color choice, and typography) combine to influence the overall usability of an application
3. Gain an understanding of what it means to design applications for universal usability, while evaluating and engaging in different approaches towards that goal
4. Recognize how business needs and user preferences influence design requirements
5. Design and develop accessible and user-friendly applications that directly address business needs
The centerpiece of this course is a semester-long development project, during which students will work in groups to design and deliver a web-based application that meets the stated business needs of a given organization. The class will meet during regularly-schedule class times for the first half of the course, while the final half will be dedicated to group meetings, prototype meetings between the group and client, and formal presentation of the final product.

The course schedule lists reading materials associated with each day's lecture. In the event of changes to this schedule or in reading materials required for class preparation, I will notify you via email, so make a habit of checking your email at least once a day. I expect you to come to class fully prepared to discuss the readings.

COURSE MATERIALS

REQUIRED

  - (ISBN = 97809844442577)
  - (http://proquest.safaribooksonline.com/9780133053029)
  - (ISBN = 9781937557027)
  - (http://proquest.safaribooksonline.com/9780133052893)
  - (ISBN = 9780321749857)
  - (http://proquest.safaribooksonline.com/9780132490474)

SUPPLEMENTAL

  - (ISBN = 97809844442515)
  - (http://proquest.safaribooksonline.com/9780133052985)
  - (ISBN = 9780984442539)
  - (http://proquest.safaribooksonline.com/9780133052992)

In addition, we will reference and make use of several websites and eBooks throughout the course, including the following:

- W3C Schools – http://www.w3schools.com
- Designing for the Web – http://designingfortheforum.co.uk/book/

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As of September 12, 2012, the indicated books are available from the Safari Books Online Technical Books database for free to TAMU students.
- The Elements of Typographic Style Applied to the Web – http://webtypography.net/
- A List Apart – http://www.alistapart.com/

**GRADING AND COURSE REQUIREMENTS**

**Quizzes:** There will be three quizzes throughout the course, covering the applicable readings and class discussion. These quizzes will consist of multiple choice, short answer, and short essay questions. Students may review quizzes in my office during scheduled office hours or make an appointment to do so. All quizzes must be reviewed within one week of the quiz grades being posted. After one week, quiz grades are considered final.

**Development Project:** Students will work in development teams to design and deliver a web-based application that meets the stated business needs of a given organization. The application will be designed to be both functional and usable from at least three different viewports: desktop, tablet, and mobile phone. The project will comprise three staged deliverables: a design mockup (no coding required at this point), a project prototype (coded, but lacking complete functionality), and the final application. Each deliverable will be formally presented to the client (the instructor) and teams will be expected to seek feedback during both the design mockup and prototype presentations. All three deliverables will be evaluated on a number of factors, including, but not limited to business needs, client requirements, and adherence to design principles covered in the class. Additionally, the prototype and final application deliverables will be evaluated on responsiveness to client feedback in prior stages.

**Evaluation:** Your course grade will be based on the total points accumulated during the semester. The points assigned to the various components of your course grade are indicated below:

<table>
<thead>
<tr>
<th>Individual Assessment</th>
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<tbody>
<tr>
<td>Quiz #1</td>
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<td>Quiz #2</td>
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<tr>
<td>Quiz #3</td>
<td>50</td>
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<tr>
<td>Participation and Professionalism</td>
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**Group Development**

<p>| | |</p>
<table>
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<tr>
<th></th>
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<tbody>
<tr>
<td>Project Mockup</td>
<td>50</td>
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<tr>
<td>Mockup Presentation / Feedback Session</td>
<td>100</td>
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<tr>
<td>Project Prototype</td>
<td>100</td>
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<tr>
<td>Prototype Presentation / Feedback Session</td>
<td>100</td>
</tr>
<tr>
<td>Final Project Deliverable</td>
<td>250</td>
</tr>
<tr>
<td>Final Project Presentation/Demonstration</td>
<td>100</td>
</tr>
</tbody>
</table>

**Total Possible Points** | **1000**
CLASS ATTENDANCE

I expect students to attend class and their group meetings. 15% of the grade in this class is determined by the students' participation and professionalism. It is hard to participate and be professional when students are not in class or group meetings.

LATE WORK POLICY

I discount any course deliverable submitted late by 10% per day. “Late” means submitting an assignment or project any time after the assignment deadline has passed. Projects and assignments turned in more than 48 hours late will receive a zero (0). EXCEPTION FOR EXCUSED ABSENCES: See “Make-Up Work Policy” below.

MAKE-UP WORK POLICY

Students with excused absences will receive adequate time and opportunities to submit the work (i.e., exams, homework, assignments, etc.) they miss due to absence. To submit work or take a make-up exam under the “make-up” policy, you must provide documentation and notice to me as specified in TAMU student rules (see Student Rules: Rule 7 -- http://student-rules.tamu.edu).

STUDENTS WITH DISABILITIES

The Americans with Disabilities Act (ADA) is a federal, anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities.

If you believe you have a disability requiring an accommodation, Disability Services (http://disability.tamu.edu). The Office of Disability Services is located in Cain Hall, Room B118, or call 845-1637.

RELIGIOUS HOLIDAYS

It is the policy of the University to excuse absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required course work that may fall on religious holidays (Student Rules: Rule 7 and Appendix IV at http://student-rules.tamu.edu). If possible, please speak with the instructor in advance of any such observances to make appropriate arrangements for missed work.
ACADEMIC INTEGRITY AND AGGIE 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 Aggie Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Aggie Honor System. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Aggie Honor System. You can learn more about the Honor Council Rules and Procedures as well as your rights and responsibilities at the following URL:

http://aggiehonor.tamu.edu

For each project submitted for grading in this course, students are required to affirm their commitment to the Aggie Honor Code with the following statement.

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

By submitting your electronic course deliverable, you affirm your adherence to the Aggie Honor Statement for that deliverable.

“Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one’s work, should the instructor request it, is sufficient grounds to initiate an academic dishonesty case.” (http://www.tamu.edu/aggiehonor/acadmisconduct.htm)

The instructor will follow the steps and processes outlined in the “Aggie Honor Council Rules and Procedures” in all cases of academic misconduct in this class.

FOOD AND DRINK IN THE CLASSROOM

We have beautiful, state-of-the-art classrooms in the Wehner Building. We want to maintain the high quality of these classrooms for current and future students. Thus, it is necessary for you to adhere to the established policy of no beverages (except water), food, tobacco products, or like items within the Wehner Building Classrooms. This policy will be strictly enforced.
## Course Schedule

<table>
<thead>
<tr>
<th>Dates</th>
<th>Topics/Concepts</th>
<th>Class Preparation and Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td><strong>TOPIC: Course Introduction / Universal Usability</strong></td>
<td>Review syllabus</td>
</tr>
<tr>
<td></td>
<td>• Syllabus / Setting Expectations</td>
<td>WSG – Chapters 1, 2</td>
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<tr>
<td></td>
<td>• Group Assignments</td>
<td>DTO – Chapters 1, 2, 6</td>
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<td>• Universal Usability</td>
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<tr>
<td>Week 1</td>
<td><strong>TOPIC: Viewports – Different Approaches</strong></td>
<td>RWD – Chapter 1</td>
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<td>• Responsive Web Design</td>
<td>MF – Chapter 1</td>
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<td>• Mobile First</td>
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<td>• Progressive Enhancement</td>
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<td>Week 2</td>
<td><strong>TOPIC: RWD Elements</strong></td>
<td>RWD – Chapters 2, 3</td>
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<td>• Flexible Grids</td>
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<td>• Flexible Images</td>
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<td><strong>TOPIC: RWD Elements, cont.</strong></td>
<td>RWD – Chapters 4, 5</td>
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<td>• Media Queries</td>
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<td>• Becoming Responsive</td>
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<td>Week 3</td>
<td><strong>TOPIC: Mobile First / Mobile Distinctives</strong></td>
<td>MF – Chapters 2, 3, 4</td>
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<td>• QUIZ #1</td>
<td>WSG – Chapters 4, 5</td>
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<td>• Constraints</td>
<td>DTO – Chapters 4, 10</td>
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<td>• Capabilities</td>
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<td>• Organization</td>
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<td>Week 3</td>
<td><strong>TOPIC: Mobile First / Mobile Distinctives</strong></td>
<td>MF – Chapters 5, 6</td>
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<td>• Actions</td>
<td>DTO – Chapter 5</td>
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<td></td>
<td>• Inputs</td>
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<td></td>
<td>• Layout</td>
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<td>Week 4</td>
<td><strong>TOPIC: Color / Graphics</strong></td>
<td>DftW – Part 4 (16-20)</td>
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<td>• Color Terminology</td>
<td>WSG – Chapter 11</td>
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<td></td>
<td>• The Color Wheel</td>
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<td><strong>TOPIC: Layout</strong></td>
<td>DftW – Part 5 (21-25)</td>
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<td>• Mobile vs. Desktop</td>
<td>WSG – Chapters 6, 7</td>
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<td>• The FBI</td>
<td>MF – Chapter 7</td>
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<td><strong>TOPIC: Typography</strong></td>
<td>DftW – Part 3 (11-15)</td>
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<td>ETS – Intro, 2.1, 2.2</td>
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<td>• Anatomy</td>
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<td>• Horizontal and Vertical Motion</td>
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<td>• Kerning</td>
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<td><strong>TOPIC: Typography, cont.</strong></td>
<td>ETS – 2.3, 2.4, 3</td>
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<td>• Typefaces</td>
<td>WSG – Chapter 8</td>
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<td>• Legibility</td>
<td>Type Classification eBook</td>
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<td>• Mobile vs. Desktop</td>
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<td>• Guiding Interaction</td>
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<td>• Simplicity</td>
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<td>TOPIC: Multimedia</td>
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<td>• Alternate Formats for Content</td>
<td>ABD – Audio and Video</td>
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<td>• Informing Users</td>
<td>HTML5 – Chapter 3</td>
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<td>TOPIC: HTML5 Tips and Tricks</td>
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<td>Dive Into HTML5 eBook</td>
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<td>W3 Schools</td>
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<td>Dive Into HTML5 eBook</td>
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<td>Week 8</td>
<td>TOPIC: CSS3 Tips and Tricks</td>
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<td>Week 9</td>
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Texas A&M University
Departmental Request for a Change in Course
Undergraduate ✦ Graduate ✦ Professional
* Submit original form and attachments *

1. Request submitted by (Department or Program Name): Department of Information and Operations Management

2. Course prefix, number and complete title of course: INFO 633 - Business Objects Analysis and Design

3. Change requested

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<tr>
<td>Prerequisite(s)</td>
<td>INFO 628 or equivalent or approval of instructor</td>
<td>INFO 629 or equivalent or approval of instructor; graduate classification in business</td>
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<td>Withdrawal (reason):</td>
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<td>Cross-list with:</td>
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4. For informational purposes only, please indicate course number if this course will be stacked: ____________

5. Complete current course title and current catalog course description:

   Business Objects Analysis and Design. Analysis and design of business Information systems using object-oriented development tools; fundamentals of object-oriented analysis and design; Unified Modeling Language, principles of N-tier architectures, and object-oriented development methodologies.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):

   Advanced Systems Analysis and Design. Advanced topics in business systems analysis and design; alternative methodologies such as agile development, extreme programming, Rational Unified Process; Unified Modeling Language; bench marking and best practices for systems development; cost/benefit analysis, estimation and budgeting for business information systems; testing; patterns, domain-driven design; process modeling; service-oriented architecture and cloud computing.

7. a. As currently in course inventory:

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<tr>
<td>Lect.</td>
<td>Lab</td>
<td>SCH</td>
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</tbody>
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   Approval recommended by: [Signature] 11-20-12

   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)

   Submitted to Coordinating Board by: [Signature] 02-11

   Associate Director, Curricular Services Date

   Questions regarding this form should be directed to Sandra Williams at 979-8201 or sandra-williams@tamu.edu.

   Curricular Services – 02/11
Texas A&M University  
Departmental Request for a Change in Course  
Undergraduate • Graduate • Professional  
- Submit original form and attachments -  

1. Request submitted by (Department or Program Name): Department of Information and Operations Management  

2. Course prefix, number and complete title of course: INFO 633 • Business Objects Analysis and Design  

3. Change requested  
   a. Prerequisite(s): From: INFO 628 or equivalent or approval of instructor  
   b. To: INFO 629 or equivalent or approval of instructor, graduate classification in business  
   c. Cross-list with: 
      Cross-listed courses require the signature of both department heads.  
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.  
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.  

4. For informational purposes only, please indicate course number if this course will be stacked:  

5. Complete current course title and current catalog course description: 
   Business Objects Analysis and Design. Analysis and design of business information systems using object-oriented development tools; fundamentals of object-oriented analysis and design; Unified Modeling Language, principles of N-tier architectures, and object-oriented development methodologies.  

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):  
   Advanced Systems Analysis and Design. Advanced topics in business systems analysis and design; alternative methodologies such as agile development, extreme programming, Rational Unified Process; Unified Modeling Language; benchmarking and best practices for systems development; cost/benefit analysis, estimation and budgeting for business information systems; testing; patterns, domain-driven design; process modeling; service-oriented architecture and cloud computing.  

7. a. As currently in course inventory: 
   
   Prefix | Course # | Title (excluding punctuation) | OBJ | ANYL & DESG  
   ------|--------|-----------------------------|-----|-----------  
   INFO | 633   | BUSINESS                      |     |            

   Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | HCE Code | Level  
   ------|----|-----|-------------------|--------------|----------|-------  
   03  | 0  | 0   | 31 05 010 0 0 6 1  

   b. Change to:  
   
   Prefix | Course # | Title (excluding punctuation) | ADV | SYS | ANYL & DESIGN  
   ------|--------|-----------------------------|----|-----|-----------  
   INFO | 633   | BUSINESS                      |     |     |            

   Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | Acad. Year | HCE Code | Level  
   ------|----|-----|-------------------|--------------|------------|----------|-------  
   03  | 0  | 0   | 31 05 010 0 0 6 1  

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

   Department Head or Program Chair (Type Name & Sign)  
   (if cross-listed course)  
   Date  
   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 845-8301 or sandra-williams@tamu.edu.  
Curricular Services – 02/11
CATALOG DESCRIPTION

Advanced topics in business systems analysis and design; alternative methodologies such as agile development, extreme programming, Rational Unified Process; Unified Modeling Language; bench marking and best practices for systems development; cost/benefit analysis, estimation and budgeting for business information systems; testing; patterns, domain-driven design; process modeling; service-oriented architecture and cloud computing.

COURSE PREREQUISITE

INFO 629 or equivalent or approval of instructor; graduate classification in business.

COURSE OBJECTIVES AND LEARNING OUTCOMES

The main objective of the course is to learn modern and advanced topics in systems development. At the completion of the course, you will:

- Understand the process of managing software development projects
- Be able to compare the properties of each of the following methodologies: Waterfall, UML, and Agile
- Be able to distinguish between various architectural design patterns and to choose one that is most appropriate for an application’s requirements
- Understand various stages of software testing
- Understand the evolution of software through its life
- Appreciate the inherent complexities of large socio technical software systems
- Be able to consider the factors that would affect development of dependable and secure software
- Know advantages of reusability, its management, and its evolution into service oriented architecture (SOA) and software as a service (SaaS)
- Learn the specific requirements for distributed SW development
- Learn to use software development metrics in estimating and in developing quality software
- Learn about assessing the software development process and ways of improving it

INSTRUCTOR

Instructor: Dr. Joobin Choobineh
Office: Wehner 301H
Telephone: 979-845-4048
Office Hours: TBD
Email: JChoobineh@mays.tamu.edu

COURSE TEXTBOOK


COURSE MATERIALS

Course Web Site on eLearning and textbook material on the publisher’s web site.

GRADING AND COURSE REQUIREMENTS

The course requirements and evaluation of each student’s work in the course are based upon performance in several areas. Grade contributions and letter grade determination are shown below.

<table>
<thead>
<tr>
<th>Tests, 2, each 30 points</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>20</td>
</tr>
<tr>
<td>Group or Individual Assignments</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 - 100</td>
<td>A</td>
</tr>
<tr>
<td>80 - 89</td>
<td>B</td>
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<tr>
<td>70 - 79</td>
<td>C</td>
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<td>60 - 69</td>
<td>D</td>
</tr>
<tr>
<td>0 - 59</td>
<td>F</td>
</tr>
</tbody>
</table>
Tests: Tests are closed books, closed notes. They will consist of one or more of the following types of questions: Multiple-choice, true-false, essay, or short answer questions. Students may review the results of an exam within one week of posting of exam grades. Grades will not be changed after two weeks from the date of the exam. Eligibility to take a make-up test and the conditions applying to make-up tests are listed under make-up work policy.

Quizzes: As many as one quiz will be given at the beginning or the end of each class. It is expected that you have read the assigned material for each day BEFORE attending the class.

Group or Individual Assignments: Students will be assigned to groups (teams). At the end of each class, each team will do the following tasks. Later, each team will prepare an electronic version of these and email to my Teaching Assistant. The deadline is 12:00 noon the day after the class. No late work will be accepted.

The file names that will be attached and the subject line of the emails must be identical and be one of the following:

INFO 633-60X – Group # – Concept Map – Class Topic  
INFO 633-60X – Group # – Quiz-Test Questions – Class Topic  
INFO 633-60X – Group # – Ambiguous Concepts – Class Topic

Replace “60X” with your actual section number. Replace “#” by your group number. Replace “Class Topic” with the chapter title, the paper title, or other title as appropriate.

The tasks are as follows:

1. Draw a concept map of what the group learned on the topic for that class. If you have never done this before, review the following sources:

   a)  http://users.edte.utwente.nl/lanzing/cm_home.htm  
   b)  http://www.udel.edu/chem/white/teaching/ConceptMap.html  
   c)  http://cmap.ihmc.us/docs/conceptmap.html

   Your deliverable must fit on a single page of paper when printed and be readable. You may want to use software to prepare it. If you do not use software, then scan and email.

2. Write the following questions on that topic followed by the answers to them. Use the template provided for electronic delivery.

   a)  2 Multiple Choice questions  
   b)  2 Short Essay Questions  
   c)  1 Long Essay Questions
You must use the fewest number of words to compose the questions. Make sure to have a mix of both hard and easy questions. You will not get a better grade if your questions are all hard. I may or may not use any of these for the quizzes and/or exams. The main objective is to improve your learning outcome by writing and answering them.

3. Compile a list of ambiguous concepts, if any.

4. Other individual or group assignments as I see fit. In particular, I may give you a questionnaire to fill as part of validation of a design.

Attendance Policy: The University views class attendance as the responsibility of an individual student. Attendance is essential to complete the course successfully. University rules related to excused and unexcused absences are located on-line at http://student-rules.tamu.edu/rule07. Students are expected to attend class for the section in which they are registered during each class session.

Late Work Policy: No late work will be accepted.

Make-Up Work Policy: No unexcused absence will be accepted for missing the deadlines or tests. If an absence is excused, the student will be allowed to make up work within 30 calendar days from the last day of the absence. Some reasons absences are considered excused by the university are the listed in Student Rule 7 (http://student-rules.tamu.edu/rule07). The fact that these are university-excused absences does not relieve the student of responsibility for 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.

Americans with Disabilities Act (ADA) Policy Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu.

Academic Integrity Statement

Aggie Honor Code

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

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. Ignorance of the rules does not exclude any member of the Texas A&M University community from the requirements or the processes of the Honor System. For additional information, please visit: http://aggiehonor.tamu.edu/

On course work, assignments, and examinations at Texas A&M University, you will be asked to sign the following Honor Pledge:

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

RELIGIOUS HOLIDAYS

It is the policy of the University to excuse absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required course work that may fall on religious holidays (Student Rules: Rule 7 and Appendix IV). If possible, please speak with the instructor in advance of any such observances to make appropriate arrangements for missed work.

CLASS POLICIES

University Policy on Incomplete (I) Grade: “A temporary grade of ‘I’ (Incomplete) at the end of a semester or summer term indicates that the student (graduate or undergraduate) has completed the course with the exception of a major quiz, final examination, or other work. The instructor shall give this grade only when the deficiency is due to an authorized absence or other cause beyond the control of the student.” (see Student Rule 10, http://student-rules.tamu.edu/rule10).

Food and Drink in the Classroom: We have beautiful, state-of-the-art classrooms in the Wehner Building. We want to maintain the high quality of these classrooms for current and future students. Thus, it is necessary for you to adhere to the established policy of no beverages (except water), food, tobacco products, or like items within the Wehner Building Classrooms. This policy will be strictly enforced.

Syllabus Changes: The topics and dates as outlined in the course schedule are subject to change. All necessary changes will be announced and discussed in class. You are responsible for making sure you are aware of any such changes.
### Daily Schedule

MW - Section 602 - 2:20-3:35, Section 603 – 3:55-5:10, Wehner 110

<table>
<thead>
<tr>
<th>Week</th>
<th>Day</th>
<th>M</th>
<th>D</th>
<th>Topics</th>
<th>Book Chapters</th>
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<tbody>
<tr>
<td>1</td>
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<td>Course Introduction and Framework</td>
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<td>2</td>
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<td>Project Management &amp; Team Work</td>
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<td>2</td>
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<td>Software Process Models</td>
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<td>Agile Development (XP, Scrum)</td>
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<td>5</td>
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<td>System Models (in UML)</td>
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<td>Architectural Designs</td>
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<td>4</td>
<td>7</td>
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<td>Design and Implementation</td>
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<td>8</td>
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<td>Testing</td>
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<td>Software Evolution</td>
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<td>10</td>
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<td>Sociotechnical Systems</td>
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<td>6</td>
<td>11</td>
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<td>Paper - Large Scale Complex IT Systems</td>
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<td>Dependability and Security</td>
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<td>13</td>
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<td>Dependability and Security Specification</td>
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<td>Security</td>
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<td>8</td>
<td>15</td>
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<td></td>
<td>Paper - A Conceptual Model for Objective-Driven Information Security Management</td>
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<td>16</td>
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<td>Mid Term Exam</td>
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<td>17</td>
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<td>Software Reuse</td>
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<td>18</td>
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<td>Component-Based Development</td>
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<td>19</td>
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<td>Distributed SW Development</td>
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<td>20</td>
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<td>SOA – BPMN – WS-BPEL</td>
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<td>11</td>
<td>21</td>
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<td></td>
<td>Project Planning – COCOMO II</td>
<td>23</td>
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<td>22</td>
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<td>Quality Management (Metrics)</td>
<td>24</td>
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<td>12</td>
<td>23</td>
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<td>Paper - Misleading Metrics</td>
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<td>24</td>
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<td>Paper – Some SOA Metrics</td>
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<td>13</td>
<td>25</td>
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<td>Paper – Data Services</td>
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<td>26</td>
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<td>Process Improvement - CMMI</td>
<td>26</td>
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<tr>
<td>14</td>
<td>27</td>
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<td>Thanks Giving</td>
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<td>28</td>
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<td>Paper – Cyber Incidence Impact Assessment</td>
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<td>Section 601 Exam: TBD</td>
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<td>Section 602 Exam: TBD</td>
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</tbody>
</table>
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
• Submit original form and attachments •

1. Request submitted by (Department or Program Name):
   Department of Veterinary Integrative Biosciences

2. Course prefix, number and complete title of course:
   VIBS 613. Evolutionary Bioinformatics
   
3. Change requested
   a. Prerequisite(s): From: ___________________________ To: ___________________________
   b. Withdrawal (reason): ___________________________
   c. Cross-list with: ___________________________
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked: ___________________________

5. Complete current course title and current catalog course description:

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):

7. a. As currently in course inventory:
   Prefix | Course # | Title (excluding punctuation)
   VIBS 613 | EVOLUTIONARY BIOINFO
   Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | HCE Code | Level
   0100001261103000228730036326

   b. Change to:
   Prefix | Course # | Title (excluding punctuation)
   VIBS 613 | EVOLUTIONARY BIOINFO
   Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | Acad. Year | HCE Code | Level
   02020326110300022873131300363261

   Approval recommended by:
   Evelyn: Tiffany-Castiglioni 10-26-12
   Chair, College Review Committee
   Date

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

   (if cross-listed course)

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

   Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8291 or sandra.williams@tamu.edu.
Curricular Services – 02/11
Course title and number: Evolutionary Bioinformatics, VIBS 613
Term: Fall 2013
Meeting times and location: T 03:00PM-05:00PM, VMR 378, Traditional face-to-face lecture
R 03:00PM-05:00PM, TBD, Computer lab-based instruction
Credits: 3.000

Course Description and Prerequisites

Principles and concepts in molecular evolution, population genetics, and evolutionary genomics; applications of quantitative approaches (computation, statistics, and mathematics) in analyzing large and complex biological data sets; algorithm design and development of scientific software using high-level high-performance computer languages; emerging techniques for integrative data analysis, and the assumptions, advantages, and limitations of these techniques.

Prerequisites: BIOL 451 or GENE/BIMS 320 or equivalent; STAT 651 or equivalent; or approval of instructor.

This course is multi-disciplinary. Applications are encouraged from students with backgrounds in any of the following disciplines: biology, medicine, computer science, statistics, and mathematics.

Learning Outcomes or Course Objectives

By the end of the course, students should be able to have an understanding about:
- Basic terminology used in evolutionary bioinformatics
- Fundamental concepts of evolutionary biology and mechanisms of genome evolution
- Current technology and data sources of evolutionary bioinformatics
- The anatomy of scientific software

Students should know:
- How to create biologically sound and computationally testable hypotheses
- How to manipulate large-scale genomic data and extract information
- How to apply an existing algorithm to experimental data
- How to implement an analysis method into a computer program
- How to design a new algorithm based on existing ones.

Instructor Information

Name: James Cai
Telephone number: 979-458-5482
Email address: jcai@tamu.edu
Office hours: MW 4:00 PM – 5:00 PM
Office location: VMR 384
Class Notes and Resource Material

Class notes: Distributed in class.
Software: Matlab (student version) for Windows/Mac/Linux, or having a user account of the TAMU Supercomputing Facility (http://sc.tamu.edu).
Additional readings: You are responsible for additional readings that will be announced in class. There will be one reading from the primary literature each week which will be required for participation in Friday case study discussions. In addition, there will be up to two short optional readings (tutorials) provided each week that may be helpful background reading for the case studies. These tutorials will not be discussed in class. There is no required textbook.

Attendance and Grading Policies

The University views class attendance as the responsibility of an individual student. Attendance is essential to complete the course successfully. University rules related to excused and unexcused absences are located on-line at http://student-rules.tamu.edu/rule07.

Grading scale: A = 90%-100%, B = 80%-89%, C = 70%-79%, D = 60%-69%, F < 60%
Students will be evaluated based on:
  a) Homework Assignments (40%)
  b) Student presentation (40%)
  c) Final Exam (20%)
Late work will be accepted only if there is an approved absence, http://student-rules.tamu.edu

Course Topics, Calendar of Activities

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Required Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Review of essential biology, statistics for data analysis, and programming techniques</td>
<td>Class notes</td>
</tr>
<tr>
<td>2</td>
<td>Comparative genomics and laws of genome evolution</td>
<td>Class notes</td>
</tr>
<tr>
<td>3</td>
<td>Molecular evolution and phylogenetic reconstruction</td>
<td>Class notes</td>
</tr>
<tr>
<td>4</td>
<td>Evolutionary change in nucleotide sequences and molecular basis of adaptation</td>
<td>Class notes</td>
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<tr>
<td>5</td>
<td>Genetic drift and coalescent theory, sequence simulation</td>
<td>Class notes</td>
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<tr>
<td>6</td>
<td>Recombination and linkage disequilibrium</td>
<td>Class notes</td>
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<tr>
<td>7</td>
<td>Population genomics and hitchhiking mapping</td>
<td>Class notes</td>
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<tr>
<td>8</td>
<td>Human evolution, genetic diversity, and personalized medicine</td>
<td>Class notes</td>
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<tr>
<td>9</td>
<td>Parallel Computing: data-intensive problems using multicore processors, GPUs, and computer clusters</td>
<td>Class notes</td>
</tr>
<tr>
<td>10</td>
<td>Quantitative genetics: QTL mapping, association mapping, and GWAS</td>
<td>Class notes</td>
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<tr>
<td>11</td>
<td>Evolution of gene expression</td>
<td>Class notes</td>
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<tr>
<td>12</td>
<td>Systems biology and analysis of biological networks</td>
<td>Class notes</td>
</tr>
<tr>
<td>13</td>
<td>Next generation sequencing data analysis</td>
<td>Class notes</td>
</tr>
<tr>
<td>14</td>
<td>Student Presentations</td>
<td>Class notes</td>
</tr>
</tbody>
</table>
Americans with Disabilities Act (ADA)

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Academic Integrity

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

"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.