Graduate Council Meeting Agenda

Electronic Vote

August 2012

1. **Course Change Requests:**
   a. CVEN 626  Roadside Safety Design
   b. MEEN 667  Mechatronics

2. **Course Withdrawal Requests:**
   a. College of Geosciences: Course Withdrawal Memo

3. **Special Consideration Items:**
   a. College of Veterinary Medicine and Biomedical Sciences: Low Producing Degrees-Consolidation
Course Changes
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): Civil Engineering
2. Course prefix, number and complete title of course: CVEN 626 - Roadside Safety Design

Attach a brief supporting statement for changes made to items 3 through 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: CVEN 626 - Roadside Safety Design
   Fundamental concepts of designing safety into roadways; safety improvement programs, accident data analysis, safety methodology, safety in cross section design and the design of safety devices; safety improvement programs, sideslopes and ditches, breakaway devices, crash cushions and roadside barriers.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words): CVEN 626 - Highway Safety
   Fundamental concepts for performing traffic safety analyses; crash data collection and database management; safety improvement programs; accident data analysis; development of statistical models; before-after studies; economic analyses; accident risk.

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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<tbody>
<tr>
<td>CVEN</td>
<td>626</td>
<td>ROAD SAFETY DESIGN</td>
</tr>
</tbody>
</table>

   LECT Lab SCH CRP and Fund Code Admin. Unit FCE Code Level
   0 3 0 0 0 3 1 4 0 8 0 1 0 0 6 0 6 3 0 0 3 6 3 2 6

   b. Change to:

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Course #</th>
<th>Title (excluding punctuation)</th>
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<tbody>
<tr>
<td>CVEN</td>
<td>626</td>
<td>HIGHWAY SAFETY</td>
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   LECT Lab SCH CRP and Fund Code Admin. Unit Acal. Year FCE Code
   0 3 0 0 0 3 1 4 0 8 0 4 0 0 0 6 0 6 3 0 1 3 - 1 4 0 0 3 6 3 2

   Approval recommended by:

   [Signature]
   Department Head or Program Chair (Type Name & Sign) Date
   [Signature]
   Chair, College Review Committee Date
   [Signature]
   Dean of College Date

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

   Submitted to Coordinating Board by:

   [Signature]
   Chair, GC or UCC Date

Associate Director, Curricular Services Date
Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu.
Curricular Services — 02/11

Effective Date
CVEN 626 – HIGHWAY SAFETY  
3 Credits  
Spring 2013

Elective

Description: Fundamental concepts for performing traffic safety analyses; crash data collection and database management; safety improvement programs; accident data analysis; development of statistical models; before-after studies; economic analyses; accident risk.

Lecture: Tuesday, 2:20-5:10 pm, CVLB109 (to be confirmed)


Highly recommended Textbooks:


Additional relevant material:


Additional reading material will be provided in class. I attached a partial list of documents relevant for this course. Additional references will be provided during class.

Prerequisites:

Recommended courses: traffic engineering (CVEN 457), geometric design (CVEN 456) and statistics (STAT 601 or STAT 211) and/or approval from the instructor.

Course Philosophy and Structure:

During each session (week) I will assign work to be done. I strongly believe that one learns more from reading and discussing with your colleagues than from listening. The work may take the form of problem sets, readings, or small projects. Class participation is essential for course. In addition, I will ask each student to prepare a term paper on a specific topic in traffic safety. The paper will deal with a specific problem statement in traffic safety. At the end of the course, each student will present the results of their research/term paper. Additional information will be provided at the beginning of the class.

Instructor:

Dr. Dominique Lord
CE/TTI Room 301
Tel. (979) 458-3949
e-mail: d-lord@tamu.edu

Course objectives:

Provide fundamental engineering bases for conducting traffic safety analyses and a critical look at the state-of-the-art methods in traffic safety.
Course Outcome:

Understand the basic concepts of highway safety and the crash process. Conduct safety-related studies: safety performance functions, before-after studies and identification of hazardous sites. Critically review the literature.

Topics:

1. Introduction: What is Traffic Safety? (1 week)
   Key Topics: Definition and meaning of “safety” and “motor vehicle accident.” Magnitude of the problem in the U.S. and around the world.

   Material: RSM: Chapter 1, Hauer: Chapter 1, WHO: Chapter 2.

2. Human Factors in Traffic Safety (1 week)
   Key Topics: Interaction between the driver, the road and the vehicle. Human contribution in road accidents. Effects of gender and age on crash risk. Issues with perception, workload and driver expectancies.


3. Economic Costs of Crashes and Value of Life (1 week)
   Key Topics: Economic costs of crashes, both societal and human related. Methods for evaluating crash costs (value of life). Relationship between crash costs and injury costs in other health areas.


4. Crash Data Collection and Database Management (1 week)


Material: RSM: Chapter 4, Hauer: Chapter 4.


5. Elements of Statistics and Crash Count Distributions (1 week)


Material: RSM: Chapter 4, Hauer: Chapter 4, Class notes


6. Exploratory Analysis of Crash Data (1 week)
*Key Topics*: Exploratory Data Analysis of Crash Data. Estimation of confidence intervals.

**Material**: RSM: Chapter 4, Tukey (1977) Exploratory Data Analysis: Chapters 1-5, Class notes.


7. Regression Analysis of Count Data and Development of Statistical Models (2 weeks)
*Key Topics*: Development and application of statistical predictive models in traffic safety.

**Material**: RSM: Chapter 5, Hauer: Chapter 12, Cameron and Trevedi: Chapter 3, Persaud: Chapter 2.


8. Before-After Studies (2 weeks)
*Key Topics*: Fundamental principles for evaluating the effects of traffic safety interventions. Before-after study with and without control groups. Site selection and regression-to-the-mean biases. Empirical Bayes and full-Bayes methods.

**Material**: RSM: Chapter 4, Hauer: Chapters 6-12, Persaud: Chapter 2 & Appendices D & E


9. Network Screening and Diagnosis (Identification of Hazardous Sites) (1 week)

Key Topics: Methods for identifying deviant or high hazardous sites. Black Spot Analysis. Diagnosis techniques.

Material: RSM: Chapters 5 & 6, Persaud: Chapter 2.


10. Study Design (1 week)

Key Topics: Characteristics of different study types. Estimation of sample size. Use of appropriate statistical tests.

Material: Class Notes.


11. Crash Modification Factors (1 week)

Key Topics: Development and application of crash modification factors (CMFs). Relevant issues and assumptions about their development and use.
Material: Research papers, Class notes

- Bonneson, J., K. Zimmerman, and K. Fitzpatrick (2005) Road Safety Design Synthesis. Report No. FHWA/ TX-05/0-4703-P1, Texas Transportation Institute, College Station, TX.

Attendance:

Valid reason must be given for nonattendance (see TAMU policy – Section 10 of Student rules; http://student-rules.tamu.edu/rule07).

Course Evaluation:

Assignments: 40% (6-8 assignments)
Term Paper: 40% (grading criteria and due date will be provided when paper is assigned)
Class Participation: 20%

Note: This course requires the participation of the attendees. The students are expected to read assigned material beforehand and be ready to discuss it during the class.

Grading Scheme:

A = above 90%, B = 80 to 89%, C = 70 to 79%, D = 60 to 69%, F = below 60%

Academic Honesty:

"An Aggie does not lie, cheat, or steal or tolerate those who do." Student are expected to understand and abide by the Aggie Honor Code presented on the web at: http://www.tamu.edu/aggiehonor. No form of scholastic misconduct will be tolerated. Academic misconduct includes cheating, fabrication, falsification, multiple submissions, plagiarism, complicity, etc. These are more fully defined in the above web site. Violations will be handled in accordance with the Aggie Honor System Process described on the web site.
E-mail:

Communication via e-mail (questions on homework, exams, class examples, etc.) is encouraged. As much as possible, questions submitted via e-mail will be answered to the sender as soon as possible. The instructor will use the e-mail system to make any relevant notifications. E-mails may also be used to distribute clarifications on class lectures, homework, exams and problem solutions. Use of e-mail is strictly voluntary. If you would like to receive course-related e-mail, send the instructor an e-mail message, indicating your name, the course, the section, and your e-mail address.

ADA Policy:

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of student Life, Services for Students with Disabilities in Room B118 of the Cain Hall Building, or call 845-1637.

Note: Any alterations about the content of the course will be discussed in class before implementation. The student is responsible for all the material presented above and covered in the textbooks, manuals and papers.

Prepared by: Dominique Lord Date of Preparation: July 6, 2012
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 Mechanical Engineering

2. Course prefix, number and complete title of course:
   MEEN 667 Mechatronics

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: MEEN 433

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) |
   ------ | --------- | ------------------------------|
   MEEN  | 667      | Mechatronics                   |

   Lect. | Lab | SCH | CHP & Fund Code | Admin. Unit | HCE Code |
   0     | 3   | 0   | 0 3114190100061920 | 0036325   |
   Level |

   b. Change to:

   Prefix | Course # | Title (excluding punctuation) |
   ------ | --------- | ------------------------------|
   MEEN  | 667      | Mechatronics                   |

   Lect. | Lab | SCH | CHP & Fund Code | Admin. Unit | HCE Code |
   0     | 2   | 0   | 03114190100061920 | 12013003632 |
   Level |

   Approval recommended by: [Signature] 6/27/12
   Department Head or Program Chair (Type Name & Sign)
   Date

   Chair, College Review Committee 7/1/12
   Date

   Department Head or Program Chair (Type Name & Sign) (if cross-listed course)
   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
TEXAS A&M UNIVERSITY
DEPARTMENT OF MECHANICAL ENGINEERING
FALL 2011

MEEN 433/667 Mechatronics

Introduction to mechatronics; basic principles of digital logic and analog circuits in mechanical systems; electrical-mechanical interfacing; sensors and actuators; digital control implementation; precision design and system integration. Three credit hours (2-3).

Instructor:

Won-jong Kim, Ph.D.
Associate Professor
221 Engineering/Physics Building
(979)845-3645, phone
wjkim@tamu.edu, email
http://alum.mit.edu/www/wjkim, webpage

TA/Grader:

none

Lectures:

MW 10:20 AM–11:10 AM at 205 ENPH(T)

Labs:

F 10:20 AM–11:10 AM at 312 ENPH(T), instruction

Each lab consists of a 2-hour hands-on experiment following a 1-hour lab instruction. Lab attendance is mandatory.

Office Hours:

MW 12:20 PM–1:20 PM at 221 EPB or 205 ENPH(T) and
F 12:45PM–1:45 PM at 312 ENPH(T) or 221 EPB

Texts (required):


We will cover Chaps. 3, 5–7, and 9–11 of AH and Chap. 8 of FP in class. Chaps. 1–2, 4, and 8 of AH are assigned to read in the first week.
References:


Reading assignments will be given with the references. All references can be checked out for two hours from the Reserved Books Desk at Evans Library.

On-Line Course Materials:

A course web page is being established on the Blackboard Vista web site at http://elearning.tamu.edu/. You should be able to access the page if you are registered for the course. All course-related material you will need, e.g. lecture slides, handouts, homework sets, solutions, lab descriptions, other useful materials will be placed on-line in PDF format for you to download and print.

Prerequisites:

- Sophomore-level electronics (ECEN 215)
- Hands-on instrumentation labs (MEEN 260)
- Dynamic systems and controls (MEEN 364)
- Any programming language

Regarding prerequisites, I expect you to be familiar with the following topics.

Sophomore-level electronics:
- Constitutive equations for passive elements, such as R, L, and C.
- Applying KVL and KCL for circuit analysis.
- Analyzing basic RLC circuits
- Analyzing basic OP Amp circuits

Hands-on instrumentation labs:
- Using basic instruments, such as oscilloscopes, function generators, power supplies, etc.
- Designing and performing basic engineering experiments.
- Writing technically sound proposals and reports.
Dynamic systems and controls:
• Writing equations of motion and finding transfer function
• Determining system (time and frequency) responses
• Designing simple controllers (PID, etc.)
• Determining system stability

Any programming language:
• Fluency in C, Matlab, C++, Fortran, Pascal, or any assembly language (for 8051, 6811, etc.)

Course Objectives:
• Understand key contemporary issues in system integration with sensors, actuators, and real-time controllers.
• Cultivate confidence in your capability to design a microcontroller-based mechatronic system.

Course Learning Outcomes:
Upon successful completion of this course, you will be able to:
• Understand state-of-the-art microcontroller structures and their applications.
• Understand basic working principles of active electronic devices, such as BJT, FET, CMOS, and OP amp.
• Read and understand manufacturers’ data sheets.
• Design combinational and sequential digital logic circuits with off-the-shelf ICs.
• Build analog and digital interface.
• Develop working knowledge in key sensors and actuators and their applications.
• Design and implement simple digital controllers.

Grading:
• Mid-term exam for 35%
• Final examination for 50%
• Homework for 15% total
• Lab attendance (If you miss a lab without university-approved excuses, 3% of the total grade per absence will be deducted.)
• Lab safety (See the section titled, Laboratory Safety on page 5. Upon each lab-safety violation, 1% of the total grade will be deducted.)

Class participation (up to 5%) will not be quantified, but may affect the final grades for those on the grade borderlines. This class participation includes participation in discussion in class and the instructor’s office hours, volunteering to answer/solve problems, and asking intelligent questions to enhance the class’s understanding of the course material.

Policy on Grading Complaints:
If you feel a mistake was made in grading any material involving (1) points not added or not recorded properly, (2) points taken-off for an answer that is not 100% correct, or (3) for giving partial credit, please, first talk to the person doing the grading within a week after the graded paper was distributed. If you are not satisfied with the resolution of the matter then talk to me. After the one week discussion period, we will not review your exams or change grades. Please make your complaint to me in writing and via e-mail. Be specific about your complaints.
Absences:

Work missed due to absences will only be excused for University-approved activities in accordance with TEXAS A&M UNIVERSITY STUDENT RULES (see http://student-rules.tamu.edu/rule7.htm). Specific arrangements for make-up work in such instances will be handled on a case-by-case basis. In accordance with recent changes to Rule 7, please be aware that in this class any "injury or illness that is too severe or contagious for the student to attend class" will require "a medical confirmation note from his or her medical provider" even if the absence is for less than 3 days (see 7.1.6.2 injury or illness less than three days).

Exams:

- Mid-term exam: in class, Wednesday, November 2, 2011 at 205 ENPH(T). Materials to be covered up to and including Lecture 15 and Homework 7.
- Final exam: 3:00 PM–5:00 PM, Friday, December 9, 2011 at 205 ENPH(T). Comprehensive. Covers all lecture and lab materials.

All exams are open-book, open-note. However, any materials authored or collected by anyone else who took or is taking this course are strictly prohibited. In addition, you may not share any materials with your classmates during the exams. You should expect substantial design problems (in hardware and software) that require creative application of the course materials.

Term-Project Expenses:

There will be a small fund available for your term project, and you can purchase materials and supplies up to your budget that I approve. There are three methods to use this fund. (1) You yourself make an arrangement with your vendor to send the bill directly to our department with MEEN 433/667 listed as a reference or PO Number. If your vendor does not honor this request, (2) you may check out the department credit card from either Ms. Peggy McCarty at 206 EPB or Ms. Holley Toschlog at 203 EPB. This card must be returned the same day, and you cannot write down the card number for future purchases. In other words, you should check out the card each time you make a purchase. In case there is any incident of abuse, this privilege will be revoked. (3) If you have a US social security number, you may make purchases out of your pocket and get reimbursed with the original receipts within 5–7 business days. Note that TAMU will not reimburse any Texas sales tax you would pay.

The Mechanical Engineering Machine Shop located on the first floor of ENPH(T) is available for your term project. You can use the machine tools in the machine shop free of charge for the term project, if you do the labor.

Term-Project Presentations:

- Monday, December 5, 2001 at 312 ENPH(T). An approximately 15-minute time slot will be assigned to each group by random drawing.

Homework:

There will be 14 homework sets to be handed out every Monday. Each homework set is due the beginning of the class on its designated due dates. Homework sets may contain design problems (in software and hardware) to prepare you for the labs, exams and term project. Your homework must represent your own work. No late homework will be accepted.
Laboratory Safety:

As each student enrolled in a qualifying laboratory course at TAMU is required to sign an LSA form, each student should log onto HOWDY, select “My Record” tab, then go to the “Registration” section. From the, the student selects “Lab Safety Acknowledgment” and the proper term. This will result in a list of the laboratory safety forms for the classes in which he/she is registered that require a form. The student should read the form and click to acknowledge.

Also refer to the document titled, Laboratory Safety: Basic Student Guideline. You are asked to sign and return the safety contract to me by the first lab.

Tentative Grading Policy:

- A: greater than 80%
- B: greater than 60% and less than 80%
- C: greater than 40% and less than 60%
- D, F: less than 40%

To Earn Graduate Credit:

MEEN 433/667 is a stacked course. University policy FS.18.033 requires that more rigorous activities be provided for graduate students to ensure work at the graduate level. To earn the MEEN 667 credit, you should design a mechatronic system. I strongly recommend that you relate this activity to your own graduate research and/or complete a term project. You should submit a type-written report by 10:20 AM on Monday, December 5, 2011. The report must not exceed 10 single-spaced pages with 12-point fonts. If this report is unsatisfactory, you will be given an I grade. I will be glad to offer my guidance regarding this activity, and you are encouraged to speak with me early in the semester. If you do not feel like doing this assignment or will be too busy to complete it in time, you should change your registration to MEEN 433. An MEEN student in the G7 classification is allowed to include up to two 400-level courses in his/her degree plan.

Useful Websites:

- Textbook: http://www.engr.colostate.edu/mechatronics
- Microchip website: http://www.microchip.com
- M. Predko: http://www.myke.com
- Fairchild Semiconductor Corp.: http://www.fairchildsemi.com
- Texas Instruments, Inc.: http://www.ti.com
- MIT OpenCourseWare: http://ocw.mit.edu
- CCS C compiler: http://ccsinfo.com
- Karl Lunt’s monitor program: http://www.seanet.com/~karllunt/picload.htm
- ASCII Code Table: http://www.asciitable.com or http://www.jimprice.com/jim-asc.htm

ADA Statement:

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, in Room 126 of the Koldus Building or call 845-1637.
**Academic Integrity:**

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

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

**Schedule:**

On the next page is a tentative schedule. The pace will be adjusted as the semester progresses. There will be a lecture on Friday, September 2 at 205 ENPH(T) to compensate for the missed class on October 31. The numbers in parentheses to the right of the topics indicate the corresponding chapters of the textbook. Reading assignments are given *in addition to* corresponding textbook reading.
<table>
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<tr>
<th>Week</th>
<th>Monday</th>
<th>Wednesday</th>
<th>Friday (labs)</th>
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</thead>
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| 1    | Course Overview (1)  
AH 1–2 | Semiconductor Electronics (3)  
semiconductor physics, band theory, doping, PN-junction diode, Zener diode, light-emitting diode (LED) | No lab  
AH 4; P 1–2; SS 3 |
| 2    | BJT (3)  
bipolar-junction transistor (BJT), BJT common-emitter operation  
HH 1–2.9; SS 4 | BJT Applications (3)  
BJT applications for switching, semiconductor manufacturing  
MS 1, 9 | 16F877 Overview (7)  
microcontroller architecture, instruction set  
AH 7.1–7.4; P 3–4, 15;  
MK 10–12; HH 11 |
| 3    | Digital Circuits (6)  
DL (diode logic), DTL, TTL (transistor-transistor logic) | Combinational Logic (6)  
number system, Boolean algebra, truth table, DeMorgan’s theorem, bubble pushing, half adder, full adder | 16F877 Programming  
C language, communication  
AH 7.7; P 5; KR |
| 4    | Combinational Logic (6)  
Karnaugh map, logic minimization, binary subtractor  
MK 1–5 | Combinational Logic (6)  
binary parallel adder, carry look-ahead, comparator, parity generator/checker | 16F877 I/O and A/D (8)  
I/O and data acquisition  
AH 8; P 6–7, 15; HH 9.15–9.26; MK 13 |
| 5    | Combinational Logic (6)  
decoder/demultiplexer, multiplexer/data selector, encoder | Sequential Logic (6)  
timing chart, RS latch, D flip-flop (FF), JK FF, T FF, switch debounce circuits | 16F877 Interrupts  
polling and interrupts  
P 9, 15; HH 10 |
| 6    | Sequential Logic (6)  
master-slave FF, edge-triggered FF, FF with data lockout  
MK 6 | Sequential Logic (6)  
shift register, data converter/transmitter, binary ripple counter  
MK 7; HH 8 | 16F877 Encoder  
interface with polling and interrupts |
| 7    | Sequential Logic (6)  
synchronous counter, BCD (binary-coded-decimal) counter, counter applications | Field Effect Transistor (FET) (3)  
JFET, MOSFET (metal-oxide semiconductor FET), MOSFET switch, CMOS (complementary MOS), SS 5 | Logic Gates and FFs (6)  
RS latch, D FF, JK FF, binary counter  
AH 7.6 |
| 8    | Large-Scale IC (6)  
CMOS logic and memory, flash memory, TTL-CMOS interfacing  
HH 3, 9.1–9.14; MK 9, 14 | Position Sensors (9)  
capacitance probe, LVDT, laser distance sensor, laser interferometer, optical encoder | 555 Timer and OP Amp  
monostable and astable oscillators  
HH 5.12–5.20 |
| 9    | Specialty Sensors (9)  
strain gauge, accelerometer, thermocouple, load cell, pyrometer  
S 3–4 | Electromechanical Actuators (10)  
voice-coil actuator, DC motor, PM motor, stepper motor | No lab  
WM 4; BV 1, 3, 4–5; C 4–7 |
| 10   | Smart-Material Actuators (10)  
piezoelectric, magnetostrictive, ionic-polymer actuators | Analog Signal Processing (5)  
voltage regulator, OP amps, differential amplifier, instrumentation amplifier, anti-aliasing filter, active filter  
HH 2.15–2.25, 4, 5.1–5.11, 6–7 | 16F877 Interface  
interface with temperature sensor, IR (infrared) range sensor, and solenoid valve/relay |
| 11   | Analog Signal Processing (5)  
low-frequency amplifiers, pulse-width modulation (PWM) amplifier, ground-loop elimination  
AH 7.8–7.9; P 6; HH15 | Discrete-Time Systems (FP 8)  
difference equation, Z-Transform | 16F877 PWM  
PWM, DC motor driving  
P 6 |
| 12   | Digital Control (FP 8)  
design by emulation, digital PID and lead-lag compensators | Digital Control (FP 8)  
root locus, zero-order-holder (ZOH) equivalence | DC Motor Control  
digital controller design and implementation |
| 13   | Real-Time Control (FP 8)  
real-time control implementation | Mechatronic Systems (11)  
precision design, interfacing, sensor mounting  
S 1–2 | No lab, Thanksgiving |
| 14   | Mechatronic Systems (11)  
control architecture, system integration  
S 5, 7 | Term-Project Prep.  
P 15–16; HH 12 | Term-Project Prep. |
MEEN 433/667 Mechatronics
Fall 2011
Instructor: Prof. Won-jong Kim

Questionnaire

Name:
Email address:
Phone number:
TAMU ID:
TAMU Department:
Are you a senior, a master’s student, or a doctoral student?
Advisor (if applicable):

Have you taken ECEN 215 (or equivalent)?
Have you taken MEEN 260 (or equivalent)?
Have you taken MEEN 364 (or equivalent)?

Yes.       No.
Yes.       No.
Yes.       No.

What would you like to learn from this course?

Will the course materials be useful for your research? If so, please tell me about your research briefly.
Course Withdrawals
MEMORANDUM

TO: Graduate Curriculum Committee
FROM: Dr. Sarah Witham Bednarz
Associate Dean for Academic Affairs

SUBJECT: College of Geosciences Courses to Be Deleted

The College of Geosciences wishes to withdraw the following graduate courses from our course inventory. This request has gone through appropriate department and college-level approval processes.

Thank you for your consideration. Please contact me if you have any questions.

OCNG 600 Survey of Oceanography
OCNG 622 Anly of Benthic Communities
OCNG 642 Marine Biochemistry Lab
OCNG 647 Chem Con of Mar Environments
OCNG/MARS 675 Env Mgmt System Strategies
OCNG/MARS 676 Marine Environmental Policies
Special Consideration Items
MEMORANDUM

To: Dr. Mark Zoran, Chair, Graduate Council

Through: Dr. Bhanu Chowdhary, Associate Dean for Research and Graduate Studies

Through: Dr. C. Jane Welsh, Chair, College Graduate Instruction Committee, Professor, Department of Veterinary Integrative Biosciences

From: Dr. Evelyn Tiffany-Castiglioni, Professor and Head, Department of Veterinary Integrative Biosciences

Subject: Low producing degrees – Consolidation

While the Veterinary Epidemiology and Public Health disciplines are critically important to the State of Texas and the country as a whole, they are inherently small disciplines. Therefore, because of the relatively low numbers of students enrolled in the M.S. (Epidemiology) and M.S. (Veterinary Public Health) curriculum (14 over the last 5 years), the university proposes a consolidation of the two M.S. degree programs. The new degree title would be M.S. in Veterinary Public Health-Epidemiology and would be housed under the current CIP code used by the two programs being consolidated (51.2510). We believe that this degree program will serve the needs of veterinarians wishing to go into some aspects of government service, military veterinary personnel seeking advanced training in public health, and students with a career goal of academia or research.

The newly formed degree would allow for 3 tracks (epidemiology, food safety and security, and public health and policy) and would offer both a thesis and non-thesis option for all tracks. By consolidating the two programs, no additional coursework would be required. The required coursework, for the newly formed degree program, is currently utilized in the Ph.D. in Biomedical Sciences (with emphasis in epidemiology) degree program as well as graduate programs in other disciplines (see attached proposed degree requirements for the M.S. in Veterinary Public Health-Epidemiology as well as the Ph.D. in Biomedical Sciences with an emphasis in Epidemiology). Most importantly, no additional cost would be associated with combining (or maintaining) the M.S. in Veterinary Public Health-Epidemiology program.

Texas Veterinary Medical Center
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College Station, TX 77843-4458

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www.cvm.tamu.edu
Teach-out Plan

Master of Science in Veterinary Public Health
College of Veterinary Medicine & Biomedical Sciences
Texas A&M University

Southern Association of Colleges and Schools Commission on Colleges Substantive Change for Accredited Institutions of the Commission of Colleges (Page 21).

1. Date of closure.
   August 31, 2012

2. An explanation of how affected parties (students, faculty, staff) will be informed of the impending closure.
   An email will be sent out by the Assistant to the Department Head to all affected parties outlining the impending consolidation of the M.S. (Epidemiology) and M.S. (Veterinary Public Health) degree programs into the M.S. (Veterinary Public Health-Epidemiology) program. In addition, all advisors of students currently enrolled in either the M.S. (Epidemiology) or M.S. (Veterinary Public Health) program will be asked to discuss programmatic changes, with their students, on a one-on-one basis. No required changes to the degree plans of students currently enrolled in either the M.S. (Epidemiology) or M.S. (Veterinary Public Health) program are anticipated.

3. An explanation of how students will be helped to complete their programs of study with minimal disruption or additional expense.
   See above

4. Signed copies of teach-out agreements with other institutions, if any.
   N/A

5. How faculty and staff will be redeployed or helped to find new employment
   N/A

6. If closing an institution, arrangement for the storing of student records, disposition of final financial resources and other assets
   N/A
Teach-out Plan

Master of Science in Epidemiology
College of Veterinary Medicine & Biomedical Sciences
Texas A&M University

Southern Association of Colleges and Schools Commission on Colleges Substantive Change for Accredited Institutions of the Commission of Colleges (Page 21).

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See above

4. Signed copies of teach-out agreements with other institutions, if any.
N/A

5. How faculty and staff will be redeployed or helped to find new employment
N/A

6. If closing an institution, arrangement for the storing of student records, disposition of final financial resources and other assets
N/A
LOW-PRODUCING RESPONSE INFORMATION SHEET

The following information is provided in connection with recent action(s) taken by the Texas Higher Education Coordinating Board and reported to your institution in a letter from MacGregor M. Stephenson on June 8, 2012.

ACTION:  TEXAS A&M UNIVERSITY

On June 8, 2012, the Coordinating Board staff completed their review of Texas A&M University’s response to the FY2007-2011 Annual Report of Low-Producing programs. The following actions have been taken.

UPDATED June 19, 2012

<table>
<thead>
<tr>
<th>Degree Title</th>
<th>Program Name</th>
<th>CIP Code</th>
<th>Phase-Out Date</th>
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<tr>
<td>MAGR</td>
<td>Plant Sciences</td>
<td>01.1101.00</td>
<td>August 31, 2016</td>
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<td>August 31, 2012</td>
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<tr>
<td>MS</td>
<td>Forestry</td>
<td>03.0501.00</td>
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<td>August 31, 2012</td>
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<tr>
<td>BA</td>
<td>American Studies</td>
<td>05.0102.00</td>
<td>August 31, 2019</td>
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<tr>
<td>MED</td>
<td>Physical Education</td>
<td>13.1314.00</td>
<td>August 31, 2016</td>
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<td>August 31, 2012</td>
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<tr>
<td>MED/MS</td>
<td>Educational Psychology-Career</td>
<td>13.1320.00</td>
<td>August 31, 2016</td>
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<td></td>
<td>Development Education</td>
<td></td>
<td>August 31, 2012</td>
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<tr>
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<td>Zoology</td>
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Degree Program Created by Consolidation

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<tr>
<th>Degree Title</th>
<th>Program Name</th>
<th>CIP Code</th>
<th>Minimum SCH</th>
<th>Effective Date</th>
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<tr>
<td>MS</td>
<td>Veterinary Public Health-Epidemiology</td>
<td>51.2510.00</td>
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<td>June 8, 2012</td>
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Degree Programs Phased-out by Consolidation

<table>
<thead>
<tr>
<th>Degree Title</th>
<th>Program Name</th>
<th>CIP Code</th>
<th>Closure Date</th>
<th>Consolidated Program</th>
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<tbody>
<tr>
<td>MS</td>
<td>Epidemiology</td>
<td>51.2510.00</td>
<td>August 31, 2016</td>
<td>MS Veterinary Public Health-Epidemiology</td>
</tr>
<tr>
<td>MS</td>
<td>Veterinary Public Health</td>
<td>51.2510.00</td>
<td>August 31, 2016</td>
<td>MS Veterinary Public Health-Epidemiology</td>
</tr>
</tbody>
</table>

* Start date for consolidated programs will be the start date of the oldest existing program. Graduates of consolidated programs will be combined with the graduates of the newly consolidated program in future Low-Producing Reports. Continue to report graduates in the programs being phased out under the current CIP Code until the closure date.

Temporary Exemption Approved

<table>
<thead>
<tr>
<th>Degree Title</th>
<th>Program Name</th>
<th>CIP Code</th>
<th>Expiration Date</th>
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</thead>
<tbody>
<tr>
<td>MS</td>
<td>Veterinary Public Health-Epidemiology</td>
<td>51.2510.00</td>
<td>August 31, 2015</td>
</tr>
</tbody>
</table>
Notes:

These changes will affect the way your institution reports courses, programs, and degrees to the Coordinating Board. Please inform the appropriate reporting personnel of these changes.

If you have any questions about this action or about your institution's program inventory, please contact:

Kevin Lemoine, Ph.D.
Deputy Assistant Commissioner
Workforce, Academic Affairs and Research Division
(512) 427-6226
E-Mail: kevin.lemoine@thecb.state.tx.us