

SUBCOMMITTEE A – AGENDA

**170 Administration Building**  
November 12, 2009  
**1:30 p.m.**

**PART I – NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES**

**COLLEGE OF ENGINEERING**

1. Request to establish a **Bachelor of Science** degree in **Electrical and Computer Engineering** in the Department of Electrical and Computer Engineering. The University Committee on Academic Policy (UCAP) will consider this request at its November 19 meeting.

a. **Background Information:**

With two years experience of offering engineering in Dubai, it has become apparent to the College of Engineering and faculty at the Dubai instructional site that including an electrical engineering component will enhance the marketability of the program and better serve regional demands. A program that offers components of both electrical and computer engineering will provide a more focused solution, both for students and future graduates in pursuit of their careers.

b. **Academic Programs Catalog Text:**

The Bachelor of Science degree in Electrical and Computer Engineering is offered only at the Dubai instructional site. The program is designed to provide students with an opportunity to study electrical engineering and computer engineering including exploration of both hardware and software.

**Requirements for the Bachelor of Science Degree in Electrical and Computer Engineering**

1. The University requirements for bachelor's degrees as described in the *Undergraduate Education* section of this catalog; 128 credits, including general elective credits, are required for the Bachelor of Science degree in Electrical and Computer Engineering.

The University's Tier II writing requirement for the Electrical and Computer Engineering major is met by completing Electrical and Computer Engineering 480. That course is referenced in item 3. b. below.

Students who are enrolled in the College of Engineering may complete the alternative track to Integrative Studies in Biological and Physical Sciences that is described in item 1. under the heading Graduation Requirements for All Majors in the College statement. Certain courses referenced in requirement 3. below may be used to satisfy the alternative track.

2. The requirements of the College of Engineering for the Bachelor of Science degree.  
The credits earned in certain courses referenced in requirement 3. below may be counted toward College requirements as appropriate.
3. The following requirements for the major:

			CREDITS
a.	One of the following courses (1 credit):		
	CEM 161	Chemistry Laboratory I	1
	PHY 191	Physics Laboratory for Scientists, I	1
b.	All of the following courses (43 credits):		
	CSE 232	Introduction to Programming II	4
	CSE 260	Discrete Structures in Computer Science	4
	CSE 331	Algorithms and Data Structures	3
	ECE 201	Circuits and Systems I	3
	ECE 202	Circuits and Systems II	3
	ECE 203	Circuits and Systems Laboratory	1
	ECE 230	Digital Logic Fundamentals	3
	ECE 280	Electrical Engineering Analysis	3
	ECE 302	Electronic Circuits	3
	ECE 303	Electronics Laboratory	1
	ECE 313	Control Systems	3
	ECE 331	Microprocessors and Digital Systems	4
	ECE 366	Introduction to Signal Processing	3
	ECE 390	Ethics, Professionalism and Contemporary Issues	1

c.	ECE 480	Senior Design	4
	Complete a minimum of 21 credits from the following courses. Specific courses offered at the Dubai instructional site can be expected to be a subset of this list during an individual student's degree pursuit.		
	(1)	At least one of the following laboratory courses:	
	ECE 402	Applications of Analog Integrated Circuits	4
	ECE 404	Radio Frequency Electronic Circuits	4
	ECE 410	VLSI Design	4
	ECE 411	Electronic Design Automation	4
	ECE 412	Introduction to Mixed-Signal Integrated Circuits	4
	ECE 416	Digital Control	3
	ECE 458	Communication Systems Laboratory	1
	(2)	At least one of the following courses:	
	CSE 335	Object-oriented Software Design	3
	CSE 410	Operating Systems	3
	CSE 420	Computer Architecture	3
	CSE 450	Translation of Programming Languages	3
	CSE 471	Media Processing and Multimedia Computing	3
	(3)	At least one of the following courses:	
	ECE 305	Electromagnetic Fields and Waves I	4
	ECE 320	Energy Conversion and Power Electronics	3
	ECE 423	Power System Analysis	3
	ECE 442	Introduction to Communication Networks	3
	ECE 457	Communication Systems	3
	ECE 466	Digital Signal Processing and Filter Design	3
	ECE 474	Principles of Electronic Devices	3

Students may use registered 'out of classroom' experiences to substitute for credits in this requirement. Students who complete a total of three experiences documented by pre-approved Engineering 393 or Electrical and Computer Engineering 490 or 499 credits, may reduce this requirement to 18 credits. All substitutions must be approved by the student's academic advisor.

Effective Fall 2010.



### **COLLEGE OF OSTEOPATHIC MEDICINE**

1. Request to change the requirements for the Professional Program in Osteopathic Medicine leading to the **Doctor of Osteopathic Medicine** in the College of Osteopathic Medicine. The University Graduate Council (UGC) will consider this request at its November 9, 2009 meeting.
  - a. Under the heading **Admission** make the following changes:
    - (1) Add the following to item 3.:

Completion of 3 semester or 4.5 term credits in each of the following areas with no grade below 2.0:  
—Genetics—course title must include the word 'genetics'.  
—Biochemistry
    - (2) Change item 4. to the following:

The Medical College Admission Test (MCAT) must be taken by September of the year application is being made. Scores cannot be more than 3 years old.
    - (3) Change item 7. to the following:

Suggested medical humanities and ethics electives include course work in philosophy, history of medicine and medical ethics.
    - (4) Replace the paragraph following item 7. with the following:

An application must be completed and all official transcripts submitted to the American Association of Colleges of Osteopathic Medicine Application Service (AACOMAS), 6110 Executive Boulevard, Suite 405, Rockville, Maryland 20852. It is highly recommended that the application be submitted no later than June 1 of the application year for students who wish to begin classes the following spring. The Michigan State University College of Osteopathic Medicine forwards to those students who pass the initial screening a secondary application which includes two evaluation forms that must be completed and returned to the college by the deadline specified. Early application is essential because the college admits its students on a rolling basis. Michigan State University College of Osteopathic Medicine classes begin in late June. Most Admissions Committee reviews are conducted between September and March. Selection of students for the fall class and for the waiting list is completed by early April.
  - b. Under the heading **Curriculum** make the following changes:
    - (1) Change the first paragraph to the following:

The curriculum leading to the Doctor of Osteopathic Medicine (D.O.) degree includes seven semesters of on-campus courses and 84 weeks of community-based clinical training. It is designed to meet the following educational objectives:
    - (2) Replace paragraphs two, three and four with the following:

The curriculum is divided into two components: the preclerkship curriculum, presented in the first two years; and the clinical clerkship curriculum, scheduled in years three and four. The first year of the preclerkship curriculum includes introductory basic science (anatomy, biochemistry, physiology, cell biology, microbiology, pathology, radiology, and pharmacology), doctor-patient relationship, clinical skills, epidemiology, biostatistics, and osteopathic manipulation courses. The second year of the preclerkship program is structured around the body systems (integumentary, neuromusculoskeletal, hematopoietic, cardiovascular, respiratory, urinary, gastrointestinal, endocrine, and reproductive), growth and development, chronic diseases, behavioral courses, continuation of the osteopathic manipulation course sequence, and family and community medicine preceptor courses scheduled with community family practice physicians.

The clinical clerkship curriculum includes 84 weeks of clinical training in community hospitals, clinics, and private practice offices affiliated with the college. The required clerkship courses include a 24-week primary care ambulatory curricular block, 22 weeks of core hospital rotations (8 weeks of internal medicine, 4 weeks of general surgery, 4 weeks of obstetrics/gynecology, 4 weeks of emergency medicine, and 2 weeks of anesthesiology), and 4 weeks of psychiatry. In addition to the required courses, the student completes 14 weeks of selective courses with the college's affiliated hospital network and can complete the remaining 20 weeks of clerkship elective courses within or outside of the college's affiliated institutions.

- (3) Under the heading **Requirements for Graduation** replace paragraph one with the following:

To graduate from Michigan State University with a Doctor of Osteopathic Medicine (D.O.) degree, a student must satisfactorily complete all required courses in the preclerkship and clerkship portions of the curriculum and pass both of the COMLEX-USA Level 2 examinations of the National Board of Osteopathic Medical Examiners.

Effective Summer 2010.

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### COLLEGE OF VETERINARY MEDICINE

1. Request to change the requirements for the Production Medicine Scholars Admission Pathway leading to the **Doctor of Veterinary Medicine Degree in Veterinary Medicine** in the College of Veterinary Medicine. The University Graduate Council (UGC) will consider this request at its November 9, 2009 meeting.

- a. Under the heading **Production Medicine Scholars Admission Pathway** make the following changes:

- (1) In paragraph three, replace item 7. with the following:

Meet with an admissions counselor in the College of Veterinary Medicine at least one year prior to application.

- (2) In paragraph five, replace item 3. with the following:

One letter of reference from the applicant's primary academic adviser in animal science.

Effective Summer 2010.

2. Request to change the requirements for the **Doctor of Veterinary Medicine Degree in Veterinary Medicine** in the College of Veterinary Medicine. The University Graduate Council (UGC) will consider this request at its November 9, 2009 meeting.

- a. Under the heading **Requirements for the Doctor of Veterinary Medicine Degree in Veterinary Medicine** make the following changes:

- (1) Under the heading **ELECTIVE CLERKSHIPS** delete the following course:

LCS 641 Food Animal Theriogenology Clerkship 3

Effective Summer 2010.

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## PART II - NEW COURSES AND CHANGES

### COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

- FW 445 ~~Socio-economics and Policy of Conservation Biology~~  
Biodiversity Conservation Policy and Practice  
~~Spring of every year.~~ Spring of even years. 3(3-0) Interdepartmental with James Madison College.  
~~P: ((EC 201 or concurrently) or (EC 202 or concurrently) or (EC 251H or concurrently) or (EC 252H or concurrently)) and completion of Tier I writing requirement P: (((EC 201 or concurrently) or (EC 202 or concurrently) or (EC 251H or concurrently) or (EC 252H or concurrently)) or approval of department) and completion of Tier I writing requirement~~ RB: Interest in Conservation Biology  
Social, economic, and policy considerations. Approaches to conserve biodiversity.  
~~Effective Spring 2008~~ Effective Fall 2010
- FW 858 Gender, Justice and Environmental Change : Issues and Concepts  
Fall of every year. 3(3-0) ~~Interdepartmental with Anthropology and Environmental Studies and Applications and Forestry and Geography and Sociology.~~ Interdepartmental with Anthropology and Forestry and Geography and Sociology RB: Background in social science, environmental science, or natural resources.  
Issues and concepts related to gender, ecology, and environmental studies. Key debates and theoretical approaches to addressing environmental issues from a gender and social justice perspective. Gender and environment issues and processes from a global perspective.  
~~Effective Summer 2007~~ Effective Fall 2010

### COLLEGE OF ENGINEERING

- CE 480 Environmental Measurements Laboratory  
Fall of every year. 1(0-3) Interdepartmental with Environmental Engineering. P: CEM 161 or CEM 185H or LB 171L  
Basic chemical and microbiological methods used in the analysis of environmental media. Laboratory safety, quality assurance, quality control, and statistics used in laboratory analysis. Related technical communication, laboratory report writing.  
Effective Fall 2010
- CE 806 Advanced Structural Concrete Design  
~~Fall of every year.~~ Spring of even years. 3(3-0)  
Analysis and design of prestressed and conventionally reinforced concrete structures.  
~~SA: CE 808~~  
~~Effective Fall 2004~~ Effective Spring 2010
- CE 822 Groundwater Modeling  
Spring of even years. 3(3-0) Interdepartmental with Environmental Engineering. ~~P: CE 824~~  
Analysis and modeling of groundwater flow, surface water and groundwater interaction, and reactive contaminant transport. Applied numerical methods for solving groundwater flow and contaminant transport equations. Case studies.  
Effective Spring 2010
- CE 836 Materials Science for Civil Engineers  
~~Fall of every year.~~ ~~Spring of every year.~~ 3(3-0) RB: (CE 337) or equivalent  
Structure of materials and structure-property relationships. Principles and theories governing mechanical, physical, and durability characteristics of civil engineering materials. Material selection, production, and quality control.  
~~Effective Summer 2006~~ Effective Fall 2010
- CE 837 Advanced Concrete Materials  
~~Fall of odd years.~~ Spring of odd years. 3(3-0)  
Microstructure, engineering characteristics and modeling of concrete materials. Structure-property relationships in concrete materials. Control of concrete structure and properties for different infrastructure applications.  
~~Effective Summer 2007~~ Effective Spring 2011

- ECE 867 Information Theory and Coding  
~~Fall of odd years. Spring of every year. 3(3-0) P: ECE 863~~  
Shannon information measures. Uniqueness theorem and chain rules of the entropy measures. Kullback-Leibler relative-entropy. The I-measure. Asymptotic Equipartition Property (AEP) for various sources. Channel capacity; discrete-memoryless and symmetric channels. The channel coding theorem. Rate-distortion theory. Applications of coding to modern communications and compression methods such as image  
~~Effective Spring 2004~~ Effective Fall 2009
- ME 451 Control Systems  
Fall of every year. Spring of every year. 4(3-3) ~~P: (ME 361 and ECE 345) and completion of Tier I writing requirement. P: ME 461 and ECE 345 R: Open only to juniors or seniors in the Mechanical Engineering major. R: Open to juniors or seniors in the Mechanical Engineering major.~~  
Mathematical modeling of dynamic systems. Standard feedback control formulation. Transient and sinusoidal steady state analysis. Time and frequency domain controller synthesis.  
~~Effective Fall 2005~~ Effective Summer 2010
- ME 461 Mechanical Vibrations  
Fall of every year. Spring of every year. 4(3-3) ~~P: (ME 451) and completion of Tier I writing requirement. P: ME 361 and ME 391 R: Open only to juniors or seniors in the Mechanical Engineering major. R: Open to juniors or seniors in the Mechanical Engineering major.~~  
Modeling and analysis of oscillatory phenomena found in linear discrete and continuous mechanical systems.  
~~Effective Fall 2005~~ Effective Summer 2010

### COLLEGE OF NATURAL SCIENCE

- GEN 810 Theory and Practice of Teaching Genetics  
Fall of every year. Spring of every year. Summer of every year. ~~4(1-0) 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. A student may earn a maximum of 6 credits in all enrollments for this course.~~ RB: One year of graduate coursework and satisfactory completion of an undergraduate-level genetics course. International students must have passed the SPEAK test. R: Open to graduate students in the College of Natural Science.  
Techniques and challenges in teaching microbial, molecular, or human genetics at the college level.  
~~Effective Summer 2009~~ Effective Summer 2010
- BLD 801 Biomedical Laboratory Diagnostics Seminar  
Fall of every year. Spring of every year. 1(1-0) A student may earn a maximum of 2 credits in all enrollments for this course. ~~R: Open to graduate students in the Clinical Laboratory Sciences major. R: Open to graduate students.~~  
Current research topics in clinical laboratory sciences.  
Request the use of ET-Extension to postpone grading.  
The work for the course must be completed and the final grade reported within 4 semesters after the end of the semester of enrollment.  
SA: MT 801  
~~Effective Summer 2008~~ Effective Fall 2009
- BLD 842 Managing Biomedical Laboratory Operations  
Fall of every year. Spring of every year. 2(2-0) ~~R: Open to in the Biomedical Laboratory Operations major or approval of department. R: Open to graduate students or lifelong graduate students or approval of department.~~  
Integration of the roles of legislative, regulatory, technological and economic factors that influence the practice and management of biomedical laboratory operations.  
Request the use of ET-Extension to postpone grading.  
The work for the course must be completed and the final grade reported within 2 semesters after the end of the semester of enrollment.  
SA: MT 842  
~~Effective Summer 2009~~ Effective Fall 2009

- BLD 844 Topics in Biomedical Laboratory Operations  
Spring of every year. 1(1-0) P: BLD 842 ~~R: Open to students in the Biomedical Laboratory Operations major or approval of department.~~ R: Open to graduate students or lifelong graduate students or approval of department.  
Current issues relevant to biomedical laboratory operations from an interdisciplinary perspective with an emphasis on efficient laboratory operations.  
Request the use of ET-Extension to postpone grading.  
The work for the course must be completed and the final grade reported within 3 semesters after the end of the semester of enrollment.  
SA: MT 844  
~~Effective Summer 2008~~ Effective Summer 2010
- BLD 846 Decision Processes for Biomedical Laboratory Operations  
Fall of every year. 2(2-0) P: BLD 842 ~~R: Open to students in the Biomedical Laboratory Operations major or approval of department.~~ R: Open to master's students or lifelong graduate students or approval of department.  
Integrative case studies presented in a problem-based learning format. Strategies for decision-making in the operations of a biomedical laboratory. Cases integrate scientific principles, management principles and regulatory factors.  
Request the use of ET-Extension to postpone grading.  
The work for the course must be completed and the final grade reported within 3 semesters after the end of the semester of enrollment.  
SA: MT 846  
~~Effective Summer 2008~~ Effective Summer 2010
- CEM 395 Analytical/Physical Laboratory  
Spring of every year. 2(1-4) ~~P: CEM 391 and ((CEM 262 or CEM 186H) and completion of Tier I writing requirement)~~ P: ((CEM 483) and completion of Tier I writing requirement) and (CEM 262 or CEM 186H) RB: One year of general chemistry, calculus, and general physics. C: CEM 484 concurrently.  
Chemical kinetics, thermodynamics, and computer-based data analysis methods.  
SA: CEM 372, CEM 472  
~~Effective Summer 2007~~ Effective Fall 2009
- CEM 495 Molecular Spectroscopy  
Fall of every year. 2(1-4) ~~P: CEM 302 and CEM 395~~ P: CEM 483 and CEM 395 RB: One year of physical chemistry.  
Experiments in magnetic resonance, optical, and vibrational spectroscopies.  
SA: CEM 472  
~~Effective Fall 2002~~ Effective Fall 2009
- CEM 985 Selected Topics in Nuclear Chemistry  
Fall of every year. 1 to 3 credits. A student may earn a maximum of 9 credits in all enrollments for this course. RB: Thermodynamics, Statistical Mechanics, Quantum Mechanics, Electricity and Magnetism, Differential and Integral Calculus, Differential Equations R: Open to doctoral students in the College of Engineering or in the College of Natural Science or in the Department of Chemistry.
- NEW Topics such as nuclear instruments, detectors and electronics, vacuum technology, electric and magnetic properties of nuclei, nuclear simulation tools, or nuclear spectroscopy and reactions.  
Effective Fall 2010
- CEM 995 Nuclear Chemistry Seminar  
Fall of every year. Spring of every year. 1 credit. RB: One year of graduate work in nuclear chemistry or related experience R: Open to graduate students in the Department of Chemistry or in the Department of Physics and Astronomy.
- NEW Advances in nuclear chemistry reported by graduate students, faculty, and guest lectures.  
Effective Fall 2010
- ZOL 313 Animal Behavior  
Fall of every year. Spring of every year. 3(3-0) ~~P: BS 110 or LBS 144 or LBS 148H~~ P: BS 110 or LB 144 or BS 148H R: Not open to freshmen.  
Development, physiological mediation, adaptive significance and evolution of behavior.  
SA: ZOL 213  
~~Effective Spring 1999~~ Effective Fall 2009

- ZOL 316            General Parasitology  
Spring of every year. 3(3-0) ~~P: (LB 144 or LB 145 or BS 110 or BS 148H or BS 149H) or (BS 111 and BS 111L)~~ P: (LB 144 or BS 110 or BS 148H) or (LB 145 or BS 149H) or (BS 111 and BS 111L)  
Identification, life history, host-parasite relationships, and epidemiology of protozoan, helminth, acanthocephalan, copepod, and arthropod parasites of animals and humans.  
~~Effective Fall 2009~~ Effective Fall 2009
- ZOL 320            Developmental Biology  
Fall of every year. 4(3-3) ~~P: (BS 110 or LBS 144 or LBS 148H) and (BS 111 or LBS 145 or LBS 149H)~~ P: (BS 110 or LB 144 or BS 148H) and (BS 111 or LB 145 or BS 149H)  
Principles of development, emphasizing vertebrates. Illustrations from morphological and experimental investigations.  
SA: ZOL 220  
~~Effective Spring 1999~~ Effective Fall 2009
- ZOL 425            Cells and Development (W)  
Spring of every year. 4(3-3) ~~P: (BS 111 and BS 111L) or ((LBS 145 or LBS 149H) and completion of Tier I writing requirement)~~ P: (BS 111 and BS 111L) or ((LB 145 or BS 149H) and completion of Tier I writing requirement)  
The role of cells in growth, differentiation and development of animals from protozoa to mammals.  
SA: ZOL 221  
~~Effective Summer 2008~~ Effective Spring 2010

### **COLLEGE OF OSTEOPATHIC MEDICINE**

- OST 801            Leadership and Organizational Dynamics/HRM in the Health Professions  
Fall of every year. 3 credits.
- NEW                Introduction to the fundamental concepts and processes for human resources management (HRM) in the health professions giving attention to principles of leadership and its application in the processes of health care management.  
Request the use of the Pass-No Grade (P-N) system.  
Request the use of ET-Extension to postpone grading.  
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.  
Effective Summer 2010
- OST 802            Operations Analysis and Decision-Making in the Health Professions  
Spring of every year. 3 credits.
- NEW                Introduction to the fundamental concepts of operations analysis, strategic and operational decision making in health care management and regulation, quality assurance and improvement, and quality outcomes research assessment.  
Request the use of the Pass-No Grade (P-N) system.  
Request the use of ET-Extension to postpone grading.  
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.  
Effective Summer 2010
- OST 803            Financial Management and Budgetary Considerations in the Health Professions  
Fall of every year. Summer of every year. 3 credits.
- NEW                Introduction to the fundamental concepts of budgeting and finance management in health care.  
Request the use of the Pass-No Grade (P-N) system.  
Request the use of ET-Extension to postpone grading.  
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.  
Effective Summer 2010

- OST 804 Public Health Policy and the Law in the Health Professions  
Fall of every year. Spring of every year. 3 credits.  
NEW Introduction to the fundamental theory and processes of public health policy and its impact on health providers with consideration of the integral relationship between health providers in the public and private sectors, health policy agencies and legislative and ethical decision making processes.  
Request the use of the Pass-No Grade (P-N) system.  
Request the use of ET-Extension to postpone grading.  
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.  
Effective Summer 2010
- OST 820 Capstone Course for the Health Professions  
Fall of every year. Spring of every year. Summer of every year. 3 credits. P: ED 820 and EAD 861 and EAD 866 and EAD 877 and CEP 825 and OST 801 and OST 802 and OST 803  
NEW Demonstration of the mastery of cognitive skills learned during the prerequisite nine courses (27 credit hours) by application of appropriate information to a robust health-care management problem.  
Request the use of the Pass-No Grade (P-N) system.  
Request the use of ET-Extension to postpone grading.  
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.  
Effective Summer 2010
- OMM 500 Student Osteopathic Manipulative Medicine Practical Laboratory  
Fall of every year. Spring of every year. Summer of every year. 1 credit. ~~A student may earn a maximum of 4 credits in all enrollments for this course. A student may earn a maximum of 8 credits in all enrollments for this course.~~ P: OST 501 and OST 502 and OST 504 and OST 505 P: OMM 501  
Elective course of didactic and clinical sessions which apply osteopathic principles and techniques on patients.  
Request the use of the Pass-No Grade (P-N) system.  
~~Effective Summer 2004~~ Effective Summer 2010

### COLLEGE OF VETERINARY MEDICINE

- LCS 813 Seminar  
Fall of every year. Spring of every year. 1(1-0) ~~A student may earn a maximum of 3 credits in all enrollments for this course. A student may earn a maximum of 4 credits in all enrollments for this course. R: Open only to graduate students in the Large Animal Clinical Sciences major. R: Open to graduate students in the College of Veterinary Medicine or in the Department of Large Animal Clinical Sciences.~~  
~~Individualized program of seminar attendance culminating in a student presented seminar. Attendance at departmental seminars including a student-presented seminar.~~  
Request the use of the Pass-No Grade (P-N) system.  
~~Effective Summer 2005~~ Effective Summer 2010