

## UNIVERSITY OF TENNESSEE

Members Present

Vince Anfara, Ben Bates, Sherry Bell, Roberto Benson, Marianne Breinig, Ed Caudill, Charles Collins, Charles Feigerle, Greer Fox, Paul Frymier, Nan Gaylord, Tom George, David Golden, George Hoemann, Michael Keene, Barbara Klinkhammer, Anne Mayhew, Mary McAlpin, Sally McMillan, Matthew Murray, Stefanie Ohnesorg, Mary E. Papke, Masood Parang, Linda Phillips, Lloyd Rinehart, Otto Schwarz, Susan Smith, Barbara Thayer-Bacon, Handel Wright, Jenny Wright. Candace White, President of Faculty Senate, was present.

The Graduate Council meeting was called to order by Stefanie Ohnesorg, Chair, on Thursday, October 7, 2004, at 3:00 p.m. in the 8<sup>th</sup> Floor Board Room of Andy Holt Tower.

1. Minutes of the Preceding Meeting.

The minutes of the April 22, 2004, meeting were approved.

2. Committee Reports.Academic Policy Committee

Charles Feigerle, Academic Policy Committee Chair, presented the report from the September 23, 2004, meeting.

The committee addressed the issue of a "Minimum Class Size" policy, which appears in the Undergraduate Catalog but does not appear in the Graduate Catalog. Council discussed several issues related to the question of whether this policy should be added to the Graduate Catalog, such as: curriculum set-up (including necessity to offer required courses); student enrollment in a given program; faculty resources available to teach graduate courses; and, differentiating between 500- and 600-level graduate course enrollment standards. This policy will be returned to Academic Policy Committee for further discussion.

The second item addressed was a proposed policy statement on "Time Limits for Assistantships." This policy statement was endorsed by the Graduate Deans' Group on September 16, 2004. The Academic Policy Committee will further develop this policy and bring it back to Council for approval.

Credentials Committee

Sally McMillan, Credentials Committee Chair, and Mary McAlpin, Credentials Committee Member, presented the report from the September 16, 2004, meeting. The committee recommended that the Council approve the requests for faculty to be approved to direct doctoral dissertations as listed in Attachment 1.

Council approved the recommendations as presented.

Curriculum Committee

Paul Frymier, Curriculum Committee Chair, presented the report from the September 23, 2004, meeting. Council approved the changes as presented (Attachment 2)

3. Other Business.Graduate Deans' Group

Ed Caudill, Chair, presented the report for the September 16, 2004, Graduate Deans' Group meeting.

The proposed changes for the Operating Guidelines for the Graduate Deans' Group will be revised by the group and presented at the next meeting.

4. Announcements.Report of Graduate Dean –Anne Mayhew

- *Fall 2004, 14<sup>th</sup> Day Graduate & Professional Enrollment* – Mayhew noted that enrollment data continue to remain consistent with previous fall enrollment numbers.
- *Council of Graduate Schools' (CGS) Resolution Regarding Graduate Scholars, Fellows, Trainees and Assistants* – Mayhew noted that the University of Tennessee's graduate programs must comply with the CGS Resolution Regarding Graduate Scholars, Fellows, Trainees, and Assistants. Mayhew asked all departments to enclose the resolution statement in graduate assistantship and fellowship offer letters. The resolution may be found on the Graduate Student Services Blackboard site.
- *Registration Enforcement of Prerequisites and Corequisites*. Mayhew announced that in Summer 2005 the Student Information System (SIS) Upgrade would be implemented, allowing for the first time an on-line check of course prerequisites and corequisites. Brenda Rayman, Catalog Editor, will assist colleges in reviewing the prerequisites and corequisites for their courses. The changes will be sent to Graduate Council in April 2005.
- *Imaging of Graduate Records*. Mayhew informed the group that the implementation of the new imaging system is well underway. Informational meetings for graduate coordinators are scheduled.
- *National Research Council (NRC) Rankings* – Mayhew reviewed plans for the University of Tennessee's doctoral programs to participate in NRC rankings.
- *Organization and Administration of Graduate Education*, publication by the Council of Graduate Schools – Mayhew announced that this publication has been distributed to graduate deans, Graduate Council members, and graduate liaisons. She asked that Graduate Council members review this publication and be prepared to discuss it at future Council meetings.

- *Fellowships* – Two significant changes in the fellowship program were noted: (1) some awards for the Black Graduate Fellowship will be available to out-of-state Black graduate students; and, (2) the Herman E. Spivey and Hilton A. Smith Fellowships will offer a \$300 award to each nominee not awarded a full fellowship. The new procedures for the Spivey and Smith Fellowships allow only one nominee per department.
- *Professional Development Committee* - Mayhew announced that there would be a total of \$200,000 awarded this academic year to faculty for professional development proposals. The maximum amount available for each award is \$5,000.

*Report of Graduate Student Senate – Jenny Wright*

- *Student Health Insurance for Graduate Assistants* – Wright is working with Jim Boyle, Director, Student Health Services, to monitor the Graduate Assistant Health Insurance Program. There are approximately 3,000 graduate assistants utilizing the health insurance program. With timely appointments being made by the academic departments this year, the insurance enrollment process is going smoothly.
- *Travel Funding Awards* – Wright announced that \$25,000 has been allocated for travel fund awards for graduate students. Council members were encouraged to inform their graduate students of this funding opportunity.
- *Goals for Graduate Student Senate* – Wright conveyed the following goals for the 2004-2005 Graduate Student Senate:
  - 1) To increase communication between Graduate Student Senate representatives and the students in the departments that they represent.
  - 2) To build better communication between Graduate Student Senate representatives and the department heads within the departments that they represent.
  - 3) To establish an honor society at the University of Tennessee that would facilitate and support academic excellence for our graduate and professional population.
  - 4) To strengthen collaboration with the governing bodies of the campus, such as Faculty Senate and the undergraduate student government.

*Report of Graduate Council Chair – Stefanie Ohnesorg*

- *Blackboard Site* – Ohnesorg announced that a Blackboard site is being created for Graduate Council members to encourage communication and strengthen information processes.
- *New Graduate Student Orientation* – Ohnesorg announced that an on-line graduate student orientation would be implemented for Fall 2005. Volunteers are needed from Graduate Council to develop this new orientation process. Volunteers will meet on October 19, 2004, at 2:00 p.m. in 218 University Center.
- *Appeals Committee* – Ohnesorg noted that Dr. Handel Wright chairs the Appeals Committee and that no other committee members have been assigned to that group at this time. The purpose of the committee is to review student appeals, and, as students

bring appeals forward, other Council members and non-members will be asked to participate.

5. Items from the Floor.

There were no items introduced or discussed from the floor.

Stefanie Ohnesorg announced that the next Graduate Council meeting would be held on November 18, 2004, at 3:00 p.m. in the 8<sup>th</sup> Floor Board Room, Andy Holt Tower.

The meeting was adjourned at 4:50 p.m.

Respectfully Submitted,

Tammy L. Barnhart

**Attachment 1**  
**Faculty Approved to Direct Doctoral Dissertations**

INITIAL Approval of Tenure-Track Faculty without Tenure (Probationary)
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Chellaboina, Vijay, Assoc. Prof.	Mech., Aero. & Biomed. Engineering	Until Tenure
DeWeerd, Hilde, Assist. Prof.	History	Until Tenure
Fernandez, Elias, Assist. Prof.	Biochem., Cell., & Molec. Biology	Until Tenure
Freeberg, Ernest, Assoc. Prof.	History	Until Tenure
Guo, Hong, Assist. Prof.	Biochem., Cell., & Molec. Biology	Until Tenure
Hayes, Douglas G., Assoc. Prof.	Biosys. Engineering & Envir. Science	Until Tenure
Hajimorad, Reza, Assist. Prof.	Entomology & Plant Pathology	Until Tenure
Jain, Nitin, Assist. Prof.	Biochem., Cell., & Molec. Biology	Until Tenure
Komistek, Richard D., Professor	Mech., Aero. & Biomed. Engineering	Until Tenure
Labrador, Mariano, Assist. Prof.	Biochem., Cell., & Molec. Biology	Until Tenure
Lamour, Kurt, Assist. Prof.	Entomology & Plant Pathology	Until Tenure
Liu, Lu, Assist. Prof.	History	Until Tenure
Luther, Catherine, Assist. Prof.	Communication & Information	Until Tenure
Mahfouz, Mohamed, Assist. Prof.	Mech., Aero. & Biomed. Engineering	Until Tenure
McElroy, Scott, Assist. Prof.	Plant Sciences	Until Tenure
Moulton, J. K., Assist. Prof.	Entomology & Plant Pathology	Until Tenure
Park, Jae, Assist. Prof.	Biochem., Cell., & Molec. Biology	Until Tenure
Reynolds, Todd, Assist. Prof.	Microbiology	Until Tenure
Roman, Marian, Assist. Prof.	Nursing	Until Tenure
Sorochan, John, Assist. Prof.	Plant Sciences	Until Tenure
Stewart, Neal, Professor	Plant Sciences	Until Tenure
Stout, Vicki, Assoc. Prof.	Human Resource Development	Until Tenure
Venkatachalam, Sundar, Assist. Prof.	Biochem., Cell. & Molec. Biology	Until Tenure
Wu, Jie, Assist. Prof.	Biosys. Engineering & Envir. Science	Until Tenure

Ye, Xiaofei, Assist. Prof.	Biosys. Engineering & Envir. Science	Until Tenure
Ziegler, Mary, Assoc. Prof.	Educ. Psychology & Counseling	Until Tenure

INITIAL Approval of Faculty with Tenure

Bernard, Ernest, Professor	Entomology & Plant Pathology	5 years
Gerhardt, Reid, Professor	Entomology & Plant Pathology	5 years
Hart, William E., Assoc. Prof.	Biosys. Engineering & Envir. Science	5 years
Windham, Mark, Professor	Entomology & Plant Pathology	5 years

INITIAL Approval of Non Tenure Faculty/Staff

Fu, Joshua, Research Assist. Prof.	Civil & Environmental Engineering	5 years
Pelletier, Dale A., Adjunct Assist. Prof.	Life Sciences	5 years
Wall, Jonathan, Assoc. Prof.	Comparative & Exper. Medicine	5 years
Zou, Ming, Assoc. Prof.	Comparative & Exper. Medicine	5 years

CONTINUING Approval of Faculty with Tenure

Cox, Don, Professor	English	10 years
Deatherage, James H. (Hal), Professor	Civil & Environmental Engineering	10 years
Jennings, LaVinia, Assoc. Prof.	English	10 years
Keene, Michael L. Professor	English	10 years
Lofaro, Michael A., Professor	English	10 years
Robinson, Bruce, Professor	Civil & Environmental Engineering	10 years
Taylor, Ronald E., Professor	Communication & Information	10 years
Trigiano, Robert, Professor	Entomology & Plant Pathology	10 years

**Attachment 2  
Curriculum Report**

**INFORMATIONAL ITEM**

DEPARTMENTAL NAME CHANGE – COLLEGE OF EDUCATION, HEALTH, AND HUMAN SCIENCES

FROM

Department of Sport and Leisure Studies

TO

Department of Exercise, Sport and Leisure Studies

**Effective: July 1, 2004**

**From:** "Robert Levy" <rlevy@utk.edu>  
**To:** <brayman@utk.edu>  
**Date:** 8/19/04 2:31PM  
**Subject:** Dept Name-Change

On 16 July, Chancellor Crabtree approved the following change: from "Dept of Sport & Leisure Studies" to "Dept of Exercise, Sport & Leisure Studies" (ESLS), effective 1 July 2004. This change incorporates the Exercise Science faculty into the new dept.

Bob

Robert A. Levy, PhD  
Interim Vice President for Academic Affairs  
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# Memo

**To:** Graduate Council

**From:** Luther Wilhelm  
Associate Dean

**Date:** 1 September 2004

**Re:** Graduate Programs in Biomedical and Computer Engineering

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The attached curricular proposal for M.S. and Ph.D. programs in Computer Engineering and for M.S. and Ph.D. programs in Biomedical Engineering were approved by their respective departmental faculties and by the College of Engineering faculty in November 2003. They were not considered by the Graduate Council in early 2004 because the programs were not yet approved by THEC. The programs have now been approved and are submitted to the Graduate Council for consideration.

The catalog changes are listed below.

Add five Biomedical Engineering Courses

Make catalog text changes to add the Biomedical Engineering graduate degree programs.

Revise catalog text for Electrical and Computer Engineering to add the Computer Engineering degree program.

## COLLEGE OF ENGINEERING

### DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

#### I. Course Changes (none)

#### II. Program Changes

ADD

New major and concentrations (MS and PhD)

DEPARTMENT	MAJOR	DEGREE	CONCENTRATIONS AVAILABLE
Electrical and Computer Engineering	Computer Engineering	MS	Computer Architecture Computer Networks Image Processing Computer Vision VLSI System Design Embedded Systems Data Fusion Data Visualization Data Structures Information Systems
		PhD	Computer Architecture Computer Networks Image Processing Computer Vision VLSI System Design Embedded Systems Data Fusion Data Visualization Data Structures Information Systems

**Effective: Fall 2005**

**SUPPORTING INFORMATION:**

- a. Rationale. Computer engineering course offerings and research have been undergoing steady growth within the department for over 25 years. At present the only graduate degrees granted are in Electrical Engineering. The course work and research of approximately one half of the department's graduates is more properly defined as Computer Engineering rather than Electrical Engineering. Proper labeling of the degrees granted will enhance the value of the degree.
- b. Financial impact. No additional resources are required to formally add the graduate programs in Computer Engineering. Adequate faculty, staff, equipment, facilities, course offerings and research opportunities already exist.
- c. Impact on other academic units. None

The Graduate Catalog should reflect the above additions in the following sections

- Graduate Degrees, Majors, and Certificate Programs Chart – page 15 of the 2004-2005 Graduate Catalog
- Page 233 of the 2004-2005 Graduate Catalog.

MAJOR	DEGREES
Computer Engineering	MS, PhD
Electrical Engineering	MS, PhD

- On pages 233 to 235 of the 2004-2005 Graduate Catalog, replace the entire program text between the faculty listing and the course listing with the following text.

The Department of Electrical and Computer Engineering offers graduate programs leading to the Master of Science and Doctor of Philosophy with a major in electrical engineering or computer engineering. Graduate students are able to conduct research in a wide variety of areas of electrical engineering including communications, electromagnetics, robotics, intelligent control, mixed-signal electronics, microelectronics, plasma engineering, power electronics and systems, and electric power systems. Research areas in computer engineering include computer architecture, networks, image processing, computer vision, VLSI system design, embedded systems, data fusion, data visualization, data structures and information systems.

The Departmental Graduate Committee is responsible for administering, promoting, and advancing the general well-being of the graduate program. Departmental actions regarding a graduate student may be appealed in writing, first to the departmental graduate committee and then to the department faculty.

The requirements outlined below apply to graduate degrees in both electrical engineering and computer engineering. The research project emphasis and/or the specific courses taken will determine the actual degree awarded.

#### **MASTER OF SCIENCE**

##### **Computer Engineering Major - Electrical Engineering Major**

Graduate work leading to the Master of Science with a major in electrical engineering or computer engineering may be completed during three semesters of full-time study, or two to three years of part-time study.

#### **ADMISSION**

Applicants for admission to the MS program are expected to have completed a bachelor's degree in electrical engineering or computer engineering with an average of at least 3.0 out of 4.0, both overall and in the senior year. In addition, all applicants are required to submit scores from the General Graduate Record Exam (GRE). Applicants whose native language is not English, including those who have earned degrees at U.S. institutions must score at least 213 on the computer-based TOEFL exam or 550 on the written exam to be considered for admission to the program.

Applicants who hold the bachelor's degree in other fields of engineering, computer science, mathematics, or the physical sciences are also expected to have a minimum cumulative grade-point average of 3.0 and a minimum senior year average of 3.0 in that field. The department will require that selected undergraduate courses be taken as determined by the applicant's prior education and experience. The student will be admitted under non-degree status until the required undergraduate courses are successfully completed with a 3.0 average.

#### **REQUIREMENTS**

Students may choose between a thesis option, a non-thesis course-only option, and a non-thesis project option MS program. All students must file a Master's Program Plan with the departmental graduate committee specifying which option they have selected, a semester-by-semester schedule of the courses they intend to take, and the members of the student's master's committee. Students may change between options one time by filing an amended Master's Program Plan and with approval of the departmental graduate committee. A student who receives financial support under a research assistantship is enrolled in the thesis option by default. Students who have held a research assistantship will require approval from the departmental graduate committee to change to one of the non-thesis options. Candidates for the MS with a major in computer engineering are required to take at least two courses from the ECE 55x series as part of their curriculum.

#### **Thesis Option**

Specific requirements of the thesis option are a minimum of 30 semester hours including

- Six semester hours of mathematics at the 400 level\* or above selected from a list approved by the graduate committee, or 6 semester hours of ECE courses at the 500 level or above, or 6 semester hours of non-ECE courses approved by the student's master's committee and the graduate committee.
- An additional 18 semester hours of 400-level\* or above work in electrical and computer engineering, with at least 6 hours of 500-level or 600-level work in each of two areas of electrical and computer engineering.
- Master's thesis, totaling 6 semester hours.
- A final oral examination covering the thesis and related coursework.

#### **Non-Thesis Courses Only Option**

Specific requirements of the non-thesis courses only option are a minimum of 30 semester hours including:

- Six semester hours of mathematics at the 400 level\* or above selected from a list approved by the graduate committee, or 6 semester hours of ECE courses at the 500 level or above, or 6 semester hours of non-ECE courses approved by the student's master's committee and the graduate committee.
- An additional 24 semester hours of 400-level\* or above work in electrical engineering or computer engineering, with 18 of the hours at the 500-level or 600-level. Of the 18 hours required at the graduate level, at least 6 hours of work in each of two areas of electrical engineering or computer engineering and an additional 6 hours outside of the two areas.
- A final comprehensive written examination. This examination will be given in January and August.

#### **Non-Thesis Project Option**

Specific requirements of the non-thesis project option are a minimum of 30 semester hours including:

- Six semester hours of mathematics at the 400 level\* or above selected from a list approved by the graduate committee, or 6 semester hours of ECE courses at the 500 level or above, or 6 semester hours of non-ECE courses approved by the student's master's committee and the graduate committee.
- An additional 21 semester hours of 400-level\* or above work in electrical engineering or computer engineering, with 15 of the hours at the 500-level or 600-level. Of the 15 hours, at least 6 hours of work in each of two areas of electrical engineering or computer engineering and an additional 3 hours of work outside of the two areas.
- ECE 501 (Project in Lieu of Thesis) with a minimum grade of B. This course will be administered by the student's master's committee. A written project proposal describing what the student will do in the course must be submitted in advance for the graduate committee's approval. A written final report and oral presentation is required and one copy of the final draft must be submitted to the graduate committee.
- A final written and oral examination covering the project and related coursework.

\*NOTE: At least two thirds of the minimum required hours must be taken in courses numbered at or above the 500 level.

## **DOCTOR OF PHILOSOPHY**

### **Computer Engineering Major · Electrical Engineering Major**

The PhD is offered with a major in computer engineering or electrical engineering. Exceptional students holding the bachelor's degree may be admitted to the doctoral program without first obtaining a master's degree. Candidates holding the MS must satisfy requirements 2 through 7 below while candidates holding only the BS must satisfy requirements 1 through 7. Applicants are required to submit scores from the General Graduate Record Exam (GRE). A TOEFL score of 550 on the written exam or 213 on the computer exam is required for non-native speakers of English, including those who have earned degrees at U.S. institutions. Specific departmental requirements for the PhD include the following:

1. For students holding only a BS, a minimum of 48 course hours is required. The first 24 course hours should satisfy:
  - a. Six semester hours of mathematics at the 400 level or above selected from a list approved by the graduate committee, or 6 semester hours of ECE courses at the 500 level or above, or 6 semester hours of non-ECE courses approved by the student's master's committee and the graduate committee.
  - b. An additional 18 semester hours of 400-level or above work in electrical and computer engineering, with at least 6 hours of 500-level or 600-level work in each of two areas of electrical and computer engineering.

In addition, the student must satisfy requirements 2 through 7 below.

2. For students holding an MS, a minimum of 24 semester hours of coursework excluding research and dissertation credit or seminar courses must be taken at the University of Tennessee, Knoxville. These hours must include:
  - a. A minimum of 12 semester hours in electrical and computer engineering at the 500 and 600 levels.
  - b. A minimum of 9 semester hours of 600-level coursework. At least 3 hours of this work must be in an area other than the student's major area.
  - c. A minimum of 6 hours of mathematics at the 500 level or above and approved by the departmental graduate committee.
3. Satisfactory performance on a qualifying examination. Separate qualifying examinations are offered for electrical engineering and for computer engineering. The qualifying examination is prepared by the Electrical and Computer Engineering faculty and consists of two 4-hour written examinations covering courses required in the undergraduate electrical and computer engineering curriculum through the junior level. The qualifying examination is offered twice each year (January and August), and a student is to take it the first time it is offered after the student enrolls in the program. A student who fails the qualifying examination must take and pass the examination the next time it is offered to remain in the program. A minimum of 12 hours of coursework must be completed after the student has taken the qualifying examination the first time.
4. Satisfactory performance on a comprehensive examination. The comprehensive examination is administered by the student's committee; the exam results are reported to the graduate committee for approval; and the exam is filed in the department. The comprehensive exam is given when the student is ready to apply for admission to candidacy. The comprehensive examination consists of both written and oral parts. The written part consists of at least two sections: a complete review of the literature in the student's dissertation topic, and a review of the major tools to be used in the dissertation work. The student's committee may require additional written sections. The student must demonstrate a mastery of the dissertation area, ability to think analytically and creatively, skill in using academic resources, and ability to complete the dissertation satisfactorily. The oral part of the comprehensive examination consists primarily of a professional presentation of a proposal for dissertation work and its defense. The committee may cover additional topics in the oral part.
5. Participation in departmental seminars.
6. A minimum of 24 hours of doctoral dissertation.
7. Successful public defense of the dissertation by the student.

## **DEPARTMENT OF MECHANICAL, AEROSPACE, AND BIOMEDICAL ENGINEERING**

### **I. Course Changes**

#### **Biomedical Engineering (192)**

ADD

**500 Thesis (1-15)** P/NP only.

**502 Registration for Use of Facilities (1-15)** Required for the student not otherwise registered during any semester when student uses university facilities and/or faculty time before degree is completed. May not be used toward degree requirements. May be repeated. Satisfactory/No Credit grading only.

**590 Selected Biomedical Engineering Problems (2-6)** Enrollment limited to students in non-thesis program. Prereq: Consent of advisor. May be repeated. Maximum 6 hours. Satisfactory/No Credit grading only.

**595 Seminar (1)** All phases of biomedical engineering, reports on current research at UTK and UTSI. May be repeated. Satisfactory/No Credit Grading only.

**600 Doctoral Research and Dissertation (3-15) P/NP only.**

**Effective: Fall 2005**

**SUPPORTING INFORMATION: (BME 500, 502, 590, 595, 600)**

- a. Rationale: Required courses for new BME graduate program.
- b. Course format and location: Courses meet at variable times.
- c. Impact on other academic units: None
- d. Financial impact: None expected.

**II. Program Changes**

ADD

New major and concentrations (MS and PhD)

DEPARTMENT	MAJOR	DEGREE	CONCENTRATIONS AVAILABLE
Mechanical, Aerospace, and Biomedical Engineering	Biomedical Engineering	MS	Musculoskeletal Biomechanics Biofluid Mechanics Biomaterials Bioimaging Cell and Tissue Engineering
		PhD	Musculoskeletal Biomechanics Biofluid Mechanics Biomaterials Bioimaging Cell and Tissue Engineering

**Effective: Fall 2005**

The Graduate Catalog should reflect the above additions in the following sections

- Graduate Degrees, Majors, and Certificate Programs Chart – page 16 of the 2004-2005 Graduate Catalog
- Page 245 of the 2004-2005 Graduate Catalog:
 

<b>MAJOR</b>	<b>DEGREES</b>
Aerospace Engineering	MS, PhD
Biomedical Engineering	MS, PhD
Engineering Science	MS, MS-MBA, PhD
Mechanical Engineering	MS, MS-MBA, PhD
- Page 245 column two of the 2004-2005 Graduate Catalog, insert new paragraph between ....In aerospace engineering, program concentrations ..... and In engineering science, program concentrations...(between paragraphs one and two):
 

In biomedical engineering, program concentrations include musculoskeletal biomechanics; biofluid mechanics; biomaterials; bioimaging; and cell and tissue engineering.
- Page 245 (column two), add a paragraph (between paragraphs 3 and 4) regarding admission requirements for biomedical engineering.
 

In Biomedical Engineering, entrance into the graduate program is available to graduates of recognized curricula in engineering, mathematics, or one of the physical sciences who satisfy the necessary prerequisites. A program application is required in addition to the Graduate Application for Admission. The names and addresses of three references must be included with the program application. The general GRE is required of all applicants for admission.
- Revise the Master of Science section on page 246 of the 2004-2005 Graduate Catalog to add Biomedical Engineering showcase (requirements) between the aerospace engineering/mechanical engineering showcase and the engineering science showcase. Revise the format of Aerospace Engineering/Mechanical Engineering showcase and Engineering Science showcase for clarity and consistency.

**MASTER OF SCIENCE**

**Aerospace Engineering Major · Biomedical Engineering Major · Engineering Science Major · Mechanical Engineering Major**

**REQUIREMENTS**

In aerospace engineering, mechanical engineering, biomedical engineering, and engineering science, two MS options are offered. Option I requires a thesis and is the normal program for graduate students. Option II does not require a thesis and provides graduate students, including co-op and other off-campus students, the opportunity to focus their programs in special areas through extended coursework.

**Aerospace Engineering Major · Mechanical Engineering Major**

Credit requirements for these two options in Mechanical Engineering and Aerospace Engineering are:

	Hours Required	
	Option I	Option II
Coursework total	24	30
<ul style="list-style-type: none"> <li>• Courses in program (500-level or above)               <ul style="list-style-type: none"> <li>Option I – 12 hours minimum</li> <li>Option II – 18 hours minimum</li> </ul> </li> <li>• Mathematics (400-level or above)               <ul style="list-style-type: none"> <li>6 hours minimum</li> </ul> </li> <li>• 590 Selected Engineering Problems               <ul style="list-style-type: none"> <li>Option II – 6 hours maximum</li> </ul> </li> </ul>		
Thesis	6	n/a
<b>Total</b>	<b>30</b>	<b>30</b>

**Biomedical Engineering Major**

Credit requirements for these two options in biomedical engineering are:

	Hours Required	
	Option I	Option II
Coursework total	24	30
<ul style="list-style-type: none"> <li>• Engineering courses               <ul style="list-style-type: none"> <li>Option I – 12 hours minimum</li> <li>Option II – 15 hours minimum</li> </ul> </li> <li>• Mathematics (400-level or above)               <ul style="list-style-type: none"> <li>6 hours minimum</li> </ul> </li> <li>• Related courses               <ul style="list-style-type: none"> <li>Option I – 6 hours</li> <li>Option II – 9 hours</li> </ul> </li> </ul> (590 Selected Engineering Problems - 6 hours maximum. May include additional courses in mathematics, computer science, or the physical and life sciences, as well as engineering courses.)		
Thesis	6	n/a
<b>Total</b>	<b>30</b>	<b>30</b>

**Engineering Science Major**

Credit requirements for these two options in engineering science are:

Option	Hours Required	
	Option I	Option II
Coursework total	24	30
<ul style="list-style-type: none"> <li>• Engineering courses               <ul style="list-style-type: none"> <li>Option I – 12 hours minimum</li> <li>Option II – 15 hours minimum</li> <li>(Major concentration may include but is not restricted to courses offered by the department)</li> </ul> </li> <li>• Mathematics (400-level or above)               <ul style="list-style-type: none"> <li>6 hours minimum</li> </ul> </li> <li>• Related courses               <ul style="list-style-type: none"> <li>Option I – 6 hours maximum</li> <li>Option II – 9 hours maximum</li> <li>(May include additional courses in mathematics, computer science, or the physical and life</li> </ul> </li> </ul>		

sciences, as well as engineering courses.) • Selected Engineering Problems Option II – 6 hours		
Thesis	6	n/a
<b>Total</b>	<b>30</b>	<b>30</b>

For all program options, other 500-level engineering courses that are approved by the student's master's committee and the graduate programs committee may be substituted for the mathematics courses. All program options require participation in the departmental graduate seminars program, and passing a final examination on all work submitted for the degree. The final examinations in Option II will cover all coursework. The thesis option, Option I, requires submission and defense of a written thesis that demonstrates the ability to conduct and report an independent investigation.

- Revise the Doctor of Philosophy section on page 247 of the 2004-2005 Graduate Catalog to include biomedical engineering.

#### **DOCTOR OF PHILOSOPHY**

**Aerospace Engineering Major · Biomedical Engineering Major · Engineering Science Major · Mechanical Engineering Major**

#### **REQUIREMENTS**

All students must complete a minimum of 72 semester hours beyond the bachelor's degree, exclusive of credit for the master's thesis. These shall include a minimum of 24 semester hours in Doctoral Research and Dissertation and a minimum of 48 semester hours in other courses.

In mechanical engineering, aerospace engineering, or biomedical engineering, the courses must include

- A minimum of 12 semester hours of graduate credit in mathematics in courses numbered 400 or above with a minimum of 6 semester hours numbered 500 or above.
- A minimum of 24 semester hours in the department in courses numbered 500 and above, with at least 12 of these semester hours in the major. A minimum of 9 semester hours of courses is required at the 600 level. These are exclusive of thesis, problems, or dissertation credit. The student's advisory committee can approve a student's petition to replace one 600-level course with one or more 500-level course(s) that are more appropriate.

In engineering science, the courses must include

- A minimum of 24 semester hours in engineering graduate courses, exclusive of thesis and dissertation credit. These courses will normally be numbered 500 and above, with at least 9 semester hours of 600-level courses, which constitute one or two areas of concentration selected by the student. The number of courses in this group to be taken will depend on the program selected by the student and the approval of his/her advisory committee.
- A minimum of 12 semester hours in mathematics or computer science in courses numbered 400 and above, exclusive of a first course in ordinary differential equations.

Additional requirements for all students include

- Registration and participation in the graduate seminar in the major program.
- Meet all departmental examination requirements, which include passing a written and oral comprehensive examination.
- Presentation of a dissertation proposal to the student's advisory committee and approval of that proposal by that committee.
- Successful defense of the dissertation.

## MEMORANDUM

TO: Graduate Council

FROM: John L. Sobieski, Jr.  
Associate Dean of Academic Affairs, College of Law

DATE: August 24, 2004

RE: Graduate Curricular Changes—College of Law

The attached curricular changes were approved by the College of Law faculty and are submitted to the Graduate Council for consideration. The following is a summary of the proposals:

(I) LAW—Revise three courses descriptions, add a prerequisite to one of the courses, and add a prerequisite or co-requisite to another of the courses.

**COLLEGE OF LAW****I. Course Changes****Law (613)**

## REVISE DESCRIPTION

## FROM

**827 Business Associations (4)** Legal problems associated with the formation, operation, and dissolution of unincorporated and incorporated business firms; legal rights and duties of firm members (principals and agents; partners and limited partners; and corporate shareholders, directors, and officers), and others with whom these members interact in connection with the firm's business.

## TO

**827 Business Associations (4)** Legal problems associated with the formation, operation, and dissolution of unincorporated and incorporated business firms; legal rights of duties of firm participants (principals and agents; partners, joint venturers, limited partners, limited liability partners, and members and managers of limited liability companies; and corporate shareholders, directors, and officers) and others with whom those participants interact in connection with the firm's business.

**Effective: Fall 2005**

**SUPPORTING INFORMATION**

- a. Rationale: The description is changed to reflect more accurately the content of the course.
- b. Course format and location: No change
- c. Impact on other academic units: None.
- d. Financial impact: None.

## REVISE DESCRIPTION AND ADD PREREQUISITE

## FROM

**828 Corporate Finance (3)** Legal issues arising in conjunction with corporate financial transactions such as the issuance of debt and various types of equity securities, distributions to shareholders, mergers, and other corporate acquisitions. Legal valuation of corporate securities.

## TO

**828 Corporate Finance (3)** Legal issues arising in conjunction with the purchase, sale, and repurchase of securities in capital formation and investment transactions, including: private and public debt, equity, and convertible securities offerings; dividends and other shareholder distributions; and mergers and acquisitions. Prereq: 827.

**Effective: Fall 2005**

**SUPPORTING INFORMATION:**

- a. Rationale: The description is changed to reflect more accurately the content of the course. An understanding of the topics covered in Business Associations has proven to be a necessary prerequisite.
- b. Course format and location: No change
- c. Impact on other academic units: None.
- d. Financial impact: None.

## REVISE DESCRIPTION AND CHANGE RECOMMENDED PREREQ/COREQ TO REQUIRED PREREQ

## FROM

**830 Securities Regulation (3)** Basic structure of the federal securities laws. Legal problems associated with the raising of capital by new and growing enterprises; securities transactions by promoters, officers, directors, and other insiders; regulation of publicly-held companies; litigation under Rule 10b-5 and other antifraud provisions; and provision of legal and other professional services in connections with securities transactions. Recommended prereq or coreq: 827.

## TO

**830 Securities Regulation (3)** Basic structure and operation of the federal securities laws, including legal issues associated with: primary and secondary public and private securities offerings; Section 11 of the Securities Act of 1933, as amended, Rule 10b-5 under the Securities Exchange Act of 1934, as amended, and other antifraud provisions; periodic reporting and other disclosure requirements; the regulation of proxy solicitations, tender offers, and securities transactions involving officers, directors, and other insiders; and the regulation of stock markets and professional service providers in the securities industry. Prereq: 827.

**Effective: Fall 2005**

**SUPPORTING INFORMATION:**

- a. Rationale: The description is changed to reflect more accurately the content of the course. An understanding of the topics covered in Business Associations has proven to be a necessary prerequisite or co-requisite.
- b. Course format and location: No change
- c. Impact on other academic units: None.
- d. Financial impact: None.

**UNIVERSITY OF TENNESSEE  
COLLEGE OF NURSING**

September 9, 2004

TO: Graduate Council

FROM: Jan L. Lee, Associate Dean for Academic Affairs

RE: Graduate Curriculum Changes – College of Nursing

The attached curricular changes were approved by the faculty of the College of Nursing and are submitted to the Graduate Council for consideration. The following is a summary of these proposals:

Add three new courses, drop two courses, and revise one course.

Revise language in Graduate Catalog to reflect 1) changes approved by UG Council during 2003-04 academic year and 2) new decisions by the faculty.

**COLLEGE OF NURSING****I. Course Changes****Nursing (720)**

ADD

**507 Concepts for Advanced Practice Nursing: Health Promotion and Health Policy (4)** Exploration of advanced nursing practitioners and their role in the dynamic health care system. Emphasis on health policy, health promotion and the organizational, social, ethical, political, economic, and technological factors that impact advanced practice nursing and the delivery/promotion of health care. Didactic (3) and Seminar (1).

**Effective: Fall 2005****SUPPORTING INFORMATION:**

- a. Rationale: This new course, 507, is the result of careful deliberation for the faculty to a) balance external pressures on graduate nursing curricula to carefully focus credits dedicated to roles and issues vs. didactic and clinical credits in the graduate concentration (i.e., specialty), b) consistent student feedback over the past several years that there is significant overlap between 503 and 520, in terms of both content and related course activities and assignments, and c) course faculty acknowledgement that the two courses had grown quite similar over the past several years. The resulting course, 507, is viewed as a "hybrid", blending and preserving the most critical objectives from the two prior courses, while developing this new course. Faculty are now actively engaged in planning innovative teaching methods and delivery formats to maximize student learning (e.g., developing a Teaching with Technology Grant proposal to develop web-based modules for selected 507 content, and possibly using intensive workshop-type formats to facilitate cross-concentration student engagement in course projects).
- b. Impact on other academic units: None.
- c. Financial impact: Minimal for students; minimal for faculty workload. This is a required core course in the MSN curriculum. Although there will be two credits "freed up" by the substitution of the four-credit course 507, for the previous six credits allocated to 503 (3 credits) and 520 (3 credits), MSN concentrations still require well over the Graduate School's minimum of 30 credits to earn a master's degree. Some students may choose to enroll in an elective in the term where 507 is taught. In terms of faculty workload, the two credits "saved" by 507 will be absorbed by a) our need to cover more graduate students in clinical placements, due to increased graduate enrollment.

ADD

**552 Care of the Critically-Ill Neonate (3)** Physiology and pathophysiology of the neonate and the recommended interventions in pathology. Focus I is on the high-risk neonate. Didactic and independent study. Coreq: 550.

**Effective: Spring 2005****SUPPORTING INFORMATION:**

- a. Rationale: Faculty teaching the neonatal content in the Women and Children concentration have provided this course as a N577 for the past three years. In response to requirements of the certifying body for neonatal nurse practitioners, this course was developed as a 577 (Special Topics), and has been required for those students in the NNP option. The faculty now bring it forward to formalize it as a required course.
- b. Impact on other academic units: None.
- c. Financial impact: None. When previously taught as 577, since this content was required for the concentration, workload was allocated to the faculty member. This will continue for 552, as it is a required course.

CREDIT LEVEL CHANGE FOR NEW 400-LEVEL COURSE: ALLOW GRADUATE CREDIT

**409 Genetic Disorders, Vulnerable Families and Health Advocacy (3)** Examination of health and social implications of Human Genome Project, with emphasis on genetic disorders that result in chronic illness or disability. Strategies for building collaborative partnerships to effect health advocacy for vulnerable populations. Prereq: Upper-division status.

**Effective: Spring 2005****SUPPORTING INFORMATION:**

- a. Rationale: This course is currently under review by the Undergraduate Council, as it is an increasingly important areas of study for undergraduate nursing majors. We anticipate the course will also be an attractive elective for graduate students in nursing, since genetic disorders and chronic illness/disability cross all age groups and patient populations. Graduate students in other health-related or social science programs may also be interested in this course for cognate credit.
- b. Impact on other academic units: Provides a cognate in this important area of knowledge.
- c. Financial impact: Since this is an elective course, college resources may be stretched covering required courses. However, since this course will be an important adjunct in supporting outreach efforts to the disability community, it will have high priority in the college to be supported. A faculty member will expertise in this area is already on board, and the college has allocated workload time for the development of this course. The course is on the (tentative) college teaching plan for summer 2005, pending approval by Undergraduate and Graduate Councils.

DROP

**503 Health Promotion in Advanced Practice (3)**

**Effective: Fall 2005**

**SUPPORTING INFORMATION**

- a. Rationale: See ADD 507 above.
- b. Impact on other academic units: None.
- c. Financial impact: See ADD 507 above.

DROP

**520 Advanced Practice Nurse and Health Care Delivery Systems (3)**

**Effective: Fall 2005**

**SUPPORTING INFORMATION**

- a. Rationale: See ADD 507 above.
- b. Impact on other academic units: None.
- c. Financial impact: See ADD 507 above.

**REVISE COURSE DESCRIPTION**

TO

**582 Scholarly Inquiry for Advanced Practice Nursing (3)** Non-thesis option. Utilization of research process through experiential or critical evaluation of science in area of interest. Conducted under faculty guidance and culminating in scholarly product. Prereq or coreq: 501 or consent of instructor. May be repeated. Maximum 6 hours.

**Effective: Fall 2005**

**SUPPORTING INFORMATION**

Rationale: This clarifies that, for students who do not elect the thesis option to complete their MSN studies, N582 is required. Further, using the language "product" indicates that there are various forms of expression that may be acceptable for demonstrating completion of N582. Examples of recent products include scientific papers, videotapes, clinical prototypes, to name but a few. The form of the final product is negotiated between the student and the supervising faculty, just as was the final paper in the previous incarnation of 582.

**II. Program Changes**

**COLLEGE OF NURSING**

**CORRECT THE COURSE TITLES IN NON-RN SHOWCASE**

On page 265 of the 2004-2005 Graduate Catalog, left-hand column, one-third down the page, under paragraph that begins "Students who enter the program as non-RNs must complete the following undergraduate nursing courses....."

- 341 Transcultural Nursing.....3
- 381 Personal Development Strategies in Nursing.....2

**Effective: Fall 2005**

**SUPPORTING INFORMATION:**

- a. Rationale: These two courses were revised, and approved by Undergraduate Council, during 2003-04 academic year; by error, the name changes were not carried over to these showcases in the graduate catalog.

**REVISE COURSES AVAILABLE TO STUDENTS IN NON-DEGREE STATUS**

On page 264 of the 2004-2005 Graduate Catalog, delete 503. The first sentence will read:

Only 505, 510 511, and 515 are open to students in Non-Degree Status.

**Effective: Fall 2005**

**SUPPORTING INFORMATION:**

- a. Rationale: Since N503 is being dropped as a course, it needs to be removed from the list. The College will send forward another action later this year, which will identify an appropriate course to replace N503 as available to non-degree students.

REVISE PROGRAM REQUIREMENT FOR MASTER OF SCIENCE IN NURSING

On page 264 of the 2004-2005 Graduate Catalog, revise the "Program Requirements" section to:

	<b>Hours Credit</b>
<b>Core (7 credits)</b>	
507 Concepts for Advanced Practical Nursing: Health Promotion and Health Policy.....	4
510 Theoretical Foundations of Nursing.....	3

**Effective: Fall 2005**

**SUPPORTING INFORMATION:**

- a. Rationale: With the dropping of 503 and 520, and the institution of 507, the core requirements needed to be updated.

REVISE RN-MSN TRACK (ADULT HEALTH NURSING, MENTAL HEALTH NURSING, NURSING OF WOMEN AND CHILDREN, FAMILY NURSE PRACTITIONER, NURSING ADMINISTRATION)

On page 266 of the 2004-2005 Graduate Catalog, revise each of the five showcases as follows:

DELETE	432.....	3
DELETE	442.....	1
ADD	482 Health Maintenance and Restoration in Community .....	4
DELETE	503.....	3
DELETE	520.....	3
ADD	507.....	4

**Effective: Fall 2005**

**SUPPORTING INFORMATION:**

Rationale for 432/442/482: Much of the RN-MSN curriculum was based on successful adaptations in the MES curriculum. However, since RN-MSN students are not (usually) constrained by the heavy course load requirements of the pre-licensure clinical courses, it is not necessary for these students to accomplish their community health coursework by separating the didactic and clinical into two courses. Thus, 482 is the appropriate course for the RN-MSN students.

Rationale for 503/520/507: These revisions are consistent with the prior decisions to delete 503 and 520, and add 507.