



University of Tennessee, Knoxville

TRACE: Tennessee Research and Creative Exchange

Graduate Council Minutes

Graduate Council

9-29-2016

Graduate Council Minutes - September 29, 2016

Graduate Council

Follow this and additional works at: https://trace.tennessee.edu/utk_gcminutes

Recommended Citation

Graduate Council, "Graduate Council Minutes - September 29, 2016" (2016). *Graduate Council Minutes*.
https://trace.tennessee.edu/utk_gcminutes/88

This Meeting Minutes is brought to you for free and open access by the Graduate Council at TRACE: Tennessee Research and Creative Exchange. It has been accepted for inclusion in Graduate Council Minutes by an authorized administrator of TRACE: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.edu.

THE UNIVERSITY OF TENNESSEE

September 29, 2016 Minutes

Members present

Roman, M. (Chair), Abedi, R., Alcocer, R., Alexiades, V., Aydeniz, M., Baek, S., Bemis, D., Black, C., Boder, E., Bonom, J., Botzakis, S., Broemmel, A., Ekici, K., Fleming-May, R., Fu, J., Fuller, R., Gordon, K., Jackson, R., Larson, J., Marshall, S., McConville, B., Mee, R., Moir McClean, T., Morrow, J., Patterson, D., Rutenberg, A., Santore, R., Schriver, R., Seddighi, R., Wang, S.

Graduate Student Senate member present: Yerukala, S.

Ex-Officio members present: Ambroziak, K., Cummings, S., Fairbrother, J., Galloway, S., Kilpatrick, Y., Moore, T., Nobles, R., Parang, M. Thompson, D., Cox, C.

Guests present: Albrecht, M., Garner, J. and Zaretski, R. (Bredesen Center), Hendricks, S. and Sullivan, M.

The Graduate Council meeting was called to order by Marian Roman on Thursday, September 29, 2016, at 3:00 p.m. in the Friesen Black Cultural Center, Multipurpose Room.

1. Minutes of the Preceding Meeting

The Minutes of the August 25, 2016 meeting were approved by the Graduate Council.

2. Committee Reports**Academic Policy Committee (Attachment 1)**

Mehmet Aydeniz reported for Maria Stehle on the September 15, 2016 meeting.

No recommendations were forwarded to the Graduate Council for approval from this meeting.

Topics discussed were:

- *Graduate Grader Policy: APC is not endorsing any change in the current policy.*
 - ◆ Because APC did not endorse any change in the current policy, a discussion arose among the Council members.
 - Question: Is grading homework ok?
 - Graduate students do not approve the practice of graduate students grading other graduate student's papers.
 - Peer review is allowed because it is part of the learning process.
 - Our accreditation does not allow for graduate students to be the instructor of record.
 - Faculty teaching graduate and post-baccalaureate course work must have the earned doctorate or terminal degree in the teaching discipline or a related discipline. Graduate students should not be grading other graduate student work. Peer review as an educational experience is permissible. Faculty must be the instructor of record and award any grade (assignment, test, final, etc.). Advanced graduate student may be engaged in assisting faculty provided they are under the direct supervision by a faculty member experienced in the teaching discipline, receive regular in-service training, and undergo planned and periodic evaluations. See SACS COC policy at <http://sacscoc.org/pdf/081705/faculty%20credentials.pdf>.
 - ◆ With all the questions and discussion, it was recommended that this proposal go back to APC for further review, clarification, and clearer wording.

- *Request to allow graduate students to retake courses for purpose of raising the grade.*
APC brings this proposal to Council for discussion and feedback before taking a vote.
 - ◆ Some of our Professional Schools (Architecture/Nursing/Vet Med) that require their students receive a “passing grade” create an Independent Study course so that the student may “retake” the course to receive a passing grade.
 - ◆ APC will discuss and review this proposal again.
- *New proposal: to revise definition and catalog text for Graduate Certificates (Mary Albrecht and Dixie Thompson)*
 - ◆ We are submitting this proposal to clarify the definition of our graduate certificates. We want to clearly define the difference between for-credit/transcribed graduate certificates programs and non-credit/professional development certificates – that may be offered by academic and non-academic units.
 - ◆ Currently, students in a certificate program are not allowed federal financial aid. This is due to our lack of tracking students in certificate programs.
 - ◆ We will use Admit for application for admission to a graduate certificate. This will give us a record of students working toward a graduate certificate.
 - ◆ With the new uAchieve (automated graduate degree audit system), we will be able to track both the degree requirements for a major and for the certificate.
 - ◆ Please review this proposal and send your feedback to Catherine Cox (cathcox@utk.edu).

Appeals Committee (Jennifer Morrow)

- Four appeals applications were received for review.

The *Graduate Appeal Procedure Guidelines* stipulates that students may appeal grades only on the basis of one or more of the following allowable grounds:

- 1) A clearly unfair decision (such as lack of consideration of circumstances clearly beyond the control of the student, e.g., a death in the family, illness, or accident).
- 2) Unacceptable instruction/evaluation procedures (such as deviation from stated policies on grading criteria, incompletes, late paper examinations, or class attendance).
- 3) Inability of the instructor to deal with course responsibilities.
- 4) An exam setting which makes concentration extremely difficult. The initial grade appeal must be filed no later than 30 days after the final grade has been issued.

Students with grievances related to race, gender, religion, national origin, age, or handicap should file a formal complaint with the office of Equity and Diversity with a copy to the appropriate academic department head.

- ◆ The committee reviewed the four applications and the following decisions were made:
 - Three applications were denied due to no grounds for appeal.
 - One application was moved forward based on two grounds for appeal (#2 & #4).

Credentials Committee (Amy Broemmel) (Attachment 2)

- A Credentialing Application is now available on the Credentials webpage to facilitate the submission process. A CV template is also provided to cut down on returns to the department for further information.
 - ◆ Thirty two applications were submitted for review. Twenty five were discussed and approved for doctoral directive status. Two were returned to the department with a request for additional required information. Five were found to be “automatically approved” as a result of promotion and/or tenure.

The Graduate Council unanimously approved the recommendations on faculty approved to direct dissertations.

Curriculum Committee (Robert Fuller) (Attachment 3)

- Robert summarized the proposals of the September 8 meeting and recommended to the Graduate Council the Committee's Report for approval.
 - ◆ Haslam College of Business and College of Nursing had minor course and program changes.
 - ◆ Bredesen Center for Interdisciplinary Research and Graduate Education is requesting to add a new major and degree – Data Science and Engineering, PhD.

The Graduate Council unanimously approved the curriculum changes as presented.

Student/Faculty Research Awards (Dixie Thompson)

- We get approximately \$100,000 to distribute for these awards. The award was revised to allow faculty and students to pair up to work together in an arena of both of their interests.
- The proposal application and cover sheet are located on the Graduate School's webpage.
- The first deadline for proposals is October 28, 2016. The second deadline is January 17, 2017.
- I hope you will communicate to your areas this opportunity to help support graduate student research, advance their areas of work, and encourage mentoring between faculty and graduate students.

3. New Business: There was no new business.**4. Administrative Reports and Announcements****Graduate Associate Deans: (Dixie Thompson) (Attachment 4)**

- The Graduate Associate Deans do an excellent job in their roles in their colleges.
- Graduate School Fellowships
 - ◆ We are streamlining the fellowship application process to make it smoother for departments to submit applications.
 - ◆ One important change to note is that we are moving up the deadline for departments to submit applications to the Graduate School to approximately February 1. This will allow us to offer the awards earlier and will hopefully be an incentive for applicants to attend UT.
 - ◆ When all details and a calendar are available we will forward the information to you.
 - ◆ We are looking to see if there is a way to use the ADMIT system in this process.
- We will have a Director of Graduate Studies Workshop on October 12, from 8:00 – 11:00.

Graduate Student Senate: Shalini Yerukala

- We have recruited more positions to GSS.
- We have created two new committees: 1) Autonomy and Strategic Committee and 2) Graduate Student Council Committee.
- We revised the GSS Bylaws.
- We successfully competed in the Chancellor's Round Table on September 20.
- The GSS first Town Hall meeting is on November 15 with the topic: Graduate Student Health.
- We are working to establish a GSS Newsletter.
- The next GSS Social is tentatively planned for the end of October.
- Graduate Student Career Workshop with Don Asher is on October 11, 6 – 8 PM, Hodges Library Auditorium.
- Diversity Dialogue Symposium is on October 14, 10:00 a.m. – 3:00 p.m. at the Baker Center.
- All SGA Retreat is on October 22.
- The next GSS meeting is on November 2.

Graduate Council Chair: Marian Roman

- I've attended and observed several committee meetings and I applaud each committee and the work and time that each member gives in serving on the various committees.
- We are a special committee of the Faculty Senate that works closely with the Graduate School to promote excellence in graduate education.
- One of my roles is a bilateral communicator between Faculty Senate and Graduate Council.
 - ◆ Faculty Senate is currently reviewing diversity issues and issues related to post tenure review process, as most of the GC membership are tenured.
- I look forward to working with you this year.

5. Items from the Floor. No items from the floor.

The meeting was adjourned at 4:20 p.m.

Respectfully submitted,

Catherine Cox
Graduate Council Liaison

**ATTACHMENT 1
ACADEMIC POLICY COMMITTEE MEETING
THURSDAY, SEPTEMBER 15, 2016, 2:00 P.M.
111 STUDENT SERVICES BUILDING**

Members present: Mehmet Aydeniz, Eric Boder, Shandra Forrest-Bank, Maria Stehle (Chair), Shalini Yerukala (Graduate Student Senate)

Other attendees: Marian Roman (Graduate Council Chair), Dixie Thompson (Dean of the Graduate School), Catherine Cox (Graduate Council Liaison)

The meeting was called to order by Maria Stehle, Chair, at 2:15 p.m.

Maria welcomed the group and asked for introduction of each member.

Committee note:

- Dr. Stehle reported she will be absent at the next Graduate Council meeting and asked for a volunteer to submit our report to Council. Dr. Aydeniz volunteered to give the report.
- Dr. Stehle also announced she will be on development leave in the spring and unable to serve as Chair for APC. She asked for a volunteer to serve as Chair in the spring semester during her absence.

CONTINUED DISCUSSION OF PREVIOUS BUSINESS:

1) Graduate Grader Policy (graduate students grading papers of other graduate students).

Current policy:

IV. Graduate Teaching Associate

Graduate Teaching Associates are advanced graduate students who have been given primary responsibility for teaching undergraduate courses, including the assignment of final grades. No other category of graduate assistant may be so charged. Associates may not be assigned primary responsibilities for teaching and student assessment in courses approved for graduate credit. Associates must have met the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) 18-hour requirement.

- Graduate students should not be the instructor of record for graduate classes nor should they be entering grades for other graduate students.
- There can be positive and negative bias when graduate students are grading their peers.
- It's bad practice to allow graduate students to grade papers of other graduate students.
- There may be special circumstances that can be petitioned to the Dean of the Graduate School.

APC is not endorsing any change in the current policy or interpretation.

- 2) **Proposal from last year: requesting graduate students be allowed to retake courses for the purpose of raising the grade.**

Proposal: No graduate student may repeat a course for the purpose of raising a PASSING grade already received.

Current policy: No graduate student may repeat a course for the purpose of raising a grade already received.

- Why aren't students who are struggling in a course being advised to withdraw from the course? Good advising would suggest the student withdraw.
- How much of a problem is this? How many students?
- Are there benchmarks on this?

APC is requesting more information before a vote can be taken.

NEW BUSINESS

- 1) **Proposal: to revise definition and catalog text for Graduate Certificates** (from Mary Albrecht and Dixie Thompson)

Proposal:

Graduate Certificate Program

Graduate certificate programs provide a means for the University of Tennessee, Knoxville to respond to emerging needs. Graduate certificate programs provide focused areas of student for students 1) pursuing other academic programs at the Master or doctoral levels, 2) who have already earned a Master or doctorate, or 3) who are post-baccalaureate and enrolled solely in graduate certificate programs.

Graduate certificate programs are for-credit programs, based entirely on credit courses, and appear on the academic transcript. Graduate certificate programs are required to have student learning outcomes and an assessment plan reported annually through the University's adopted process.

Non-credit certificate programs may be established by any academic unit. The non-credit certificate is issued by the unit to those completing the program. These may be for professional development and continuing education of working professionals to maintain licensure. These may be offered online or non-traditional formats. They are not placed on an official university transcript. These are often offered through UT Conferences and Non-Credit Programs.

Administration of Graduate Certificate Programs

Graduate certificate programs require a minimum of 12 semester credit hours. Graduate certificate programs require the same curricular approval process as majors and minors. Only those that appear in the Graduate Catalog will be posted to the student's official transcript. Graduate certificate programs are comprised of approved graduate courses. For any graduate certificate programs, the student must earn all semester credit hours from the University of Tennessee, Knoxville.

No more than nine semester credit hours earned toward completion of a single certificate, or more than one certificate, may be applied toward a graduate degree.

Since graduate certificates are university credentials, a student must apply through Graduate Admissions to the graduate certificate program and be accepted by the program to participate in the certificate program prior to enrolling in any courses. Students must maintain a minimum 3.0 grade point average once in the program and complete the requirements of the certificate program as stated in the Graduate Catalog to be awarded the graduate certificate.

For those students who are concurrently enrolled in a Master or doctorate program, the graduate certificate will be awarded the same semester as the degree. Certificates will be awarded at the normal times when degrees are awarded.

For independent, stand-alone graduate certificates (those when a student is not concurrently enrolled in a Master or doctorate program), the certificate is awarded upon completion of required courses and submission of application for graduation.

The Office of the University Registrar will issue all graduate certificates.

Current catalog text:

A graduate certificate may be earned by successful completion of a series of specific courses. A candidate for a graduate certificate program must be a fully admitted graduate student who has satisfactorily completed (minimum 3.0 grade point average) the minimum requirements for a certificate as described in the Graduate Catalog. The minimum requirements for the certificate programs are listed under the academic department offering the certificate. A candidate must be a graduate student in good standing and comply with all other applicable policies. Graduate certificate programs require a minimum of 12 semester credit hours taken at the University of Tennessee, Knoxville. Use of credits to fulfill requirements for a graduate degree will be at the discretion of the academic department.

To receive the certificate, students must submit a Completion of Certificate Program Form endorsed by the academic department to the Graduate School. Only those certificate programs that are officially approved by the Graduate Council will be posted on student transcripts. To receive a graduate certificate, students must be admitted to a certificate program or a degree program (see Admission for Graduate Certificate Students).

Rationale for changes:

As a result of the federal audit of financial aid at the University of Tennessee, we must institute a more standardized and clear process for enrolling students in graduate certificate programs to be compliant. The proposed change is intended to clearly define the difference between for-credit/transcribed graduate certificate programs and non-credit/professional development certificate programs that may be offered by academic and non-academic units.

- We currently have no way of tracking graduate certificate students.
- Currently, students are not allowed federal financial aid when earning a graduate certificate – this is due to our lack of tracking of students in certificate programs.
- Current text does not address non-credit certificates.
- In most cases, students earn the certificate while in a degree program, but there are also cases where students are enrolled only in a certificate program.
- We will use Admit for application for admission to a graduate certificate. This will give us a record of students who are working toward a certificate. This information will be pushed to Banner.
- If currently in a degree program, students will still apply through Admit, but will not be charged the application fee. Students working toward a certificate, but not a degree, will be charged the regular application fee.
- With the new uAchieve (automated graduate degree audit system), we will be able to track both the degree requirements for a major as well as the requirements for the certificate.
- We still need to work on some issues related to the timeline for applying for the certificate program and the timeline for applying to receive the certificate (the latter may not be needed with uAchieve).

APC recommendation:

Let's take this proposal to Graduate Council as a discussion item and get feedback and then come back to APC for final discussion, revisions, and vote.

2) Organization of policies in the Graduate Catalog.

Mary Albrecht is working on a reconfiguration of how the policies are listed in the catalog. Currently, policies are listed in alpha order and this may not be ideal. If any APC member would like to work with Mary on this, please notify her.

The meeting adjourned at 3:15 p.m.

Respectfully submitted,

Catherine Cox
Graduate Council Liaison

ATTACHMENT 2
Credentials Committee Report
September 15, 2016
111 Student Services Building

Present: Amy Broemmel (Chair), Reza Abedi, Chad Black, Nuria Cruz-Camara, Jens Gregor, Jim Larson, Rudy Santore, Marian Roman, and Dixie Thompson

Thirty-two (32) applications were submitted for review. The committee reviewed the applications and:

- 2 were returned to the department with a request for additional required information.
- 5 were found to be “automatically approved,” as a result of promotion and/or tenure.
- 25 were discussed and approved for doctoral directive status by the committee.

The following faculty members were recommended for approval to direct dissertations as follows:

Employee Name	Title	Current Department	Approval
Initial Approval of Tenure Track Faculty without Tenure (Probationary)			
Julia Jaekel	Assistant Professor	Child and Family Studies	Until Tenure
Tara Moore	Assistant Professor	Theory and Practice in Teacher Education	Until Tenure
Zhimin Xi	Assistant Professor	Theory and Practice in Teacher Education	Until Tenure
Initial Approval of Non-Tenure Track Faculty			
Brian Anderson	Joint Faculty Associate Professor	Bredesen Center-Energy Science and Engineering	5 years, through the 2020-2021 academic year
Virginia Dale	Joint Faculty Professor	Bredesen Center-Energy Science and Engineering	5 years, through the 2020-2021 academic year
Claus Daniel	Joint Faculty Associate Professor	Bredesen Center-Energy Science and Engineering	5 years, through the 2020-2021 academic year
Mitch Doktycz	Joint Faculty Professor	Bredesen Center-Energy Science and Engineering	5 years, through the 2020-2021 academic year
David Wood	Joint Faculty Associate Professor	Bredesen Center-Energy Science and Engineering	5 years, through the 2020-2021 academic year
Renewal of Non-Tenure Track Faculty			
Joseph Clark	Adjunct Associate Professor	Forestry, Wildlife & Fisheries	5 years, through the 2020-2021 academic year

Charles Melcher	Research Professor	Materials Science and Engineering/Nuclear Engineering	5 years, through the 2020-2021 academic year
Continuing Approval of Faculty with Tenure			
Bruce Behn	Professor and Associate Dean	Accounting and Information Management	10 years, through the 2026-2027 academic year
Stan Bowie	Associate Professor	Social Work	10 years, through the 2026-2027 academic year
Terri Combs-Orme	Endowed Professor	Social Work	10 years, through the 2026-2027 academic year
J. Amos Hatch	Professor	Theory and Practice in Teacher Education	10 years, through the 2026-2027 academic year
J. Wesley Hines	Professor and Department Head	Nuclear Engineering	10 years, through the 2026-2027 academic year
Youn-Kyung Kim	Professor	Retail, Hospitality and Tourism Management	10 years, through the 2026-2027 academic year
Robert Ladd	Emeritus Professor	Management	10 years, through the 2026-2027 academic year
Anne McGill-Franzen	Professor	Theory and Practice in Teacher Education	10 years, through the 2026-2027 academic year
Norma Mertz	Professor and Department Head	Educational Leadership and Policy Studies	10 years, through the 2026-2027 academic year
Alex Miller	Professor	Management	10 years, through the 2026-2027 academic year
John Orme	Professor	Social Work	10 years, through the 2026-2027 academic year
David Patterson	Endowed Professor	Social Work	10 years, through the 2026-2027 academic year
Mary Rogge	Associate Professor	Social Work	10 years, through the 2026-2027 academic year
Tracie Woidtke	Professor and Department Head	Finance	10 years, through the 2026-2027 academic year
Steven Zinkle	Professor	Nuclear Engineering / Materials Science and Engineering	10 years, through the 2026-2027 academic year

Five applications were found to be automatically approved as a result of promotion and/or tenure. They are:

Doris D'Souza, Department of Food Science, tenured in 2012

Sadie Hutson, College of Nursing, tenured in 2016

Michael Kent, School of Advertising and Public Relations, tenured in 2015

Sandra Mixer, College of Nursing, tenured in 2016

Maureen Taylor, School of Advertising and Public Relations, tenured in 2015

ATTACHMENT 3
Graduate Curriculum Committee Meeting Report
405 Student Services Building
Thursday, September 8, 2016

Members present: Robert Fuller (Chair), David Bemis, Stergios Botzakis, Kivanc Ekici, Rebecca Jackson, Sibyl Marshall, Stefanie Ohnesorg

Also in attendance: Mary Albrecht (Accreditation), Jeffrey Fairbrother (College of Education, Health, and Human Sciences), Marian Roman (Chair, Graduate Council), Dixie Thompson (Dean of the Graduate School), Russell Zaretzki (for Bredesen Center for Interdisciplinary Research and Graduate Education), Catherine Cox

Robert Fuller called the meeting to order at 3:45 p.m. Robert welcomed the new members.

Curriculum proposals for discussion:

1) Haslam College of Business

- a) Course changes: added 1 course, revised 4 courses, dropped last course and academic discipline for IOP.
- b) Program changes: revised *MBA Programs for Working Professionals*.

2) College of Nursing

- a) Program changes: revised *Nursing major, MSN (Nursing Administration concentration)*.
The Curriculum Committee had questions concerning the change in program hour requirements from 12 to 21. It was noted that 9 hours of elective courses were dropped last year and 3 new courses added to replace the electives. However, the revision to the program requirements was not submitted in last year's proposals.
- b) **Informational Item:** The Curriculum Committee recognized the above error, and with confirmation from Dr. Gunther as to the error, **the Committee voted and approved an adjustment to the current 2016-17 Graduate Catalog to revise the hours from 12 to 21 in order for the catalog to accurately display the requirements.**
 - i) Email sent to Dr. Gunther (cc: Marian Roman and Robert Fuller). Dr. Gunther confirmed this was an oversight and approved of the immediate change to the catalog.

3) Bredesen Center for Interdisciplinary Research and Graduate Education

- a) Course changes: added new academic discipline – Data Science and Engineering (DSE) and 10 courses. This is in alignment with the new DSE doctoral major being added.
- b) Program changes: added new major and degree – *Data Science and Engineering, PhD*
- c) **Informational Item:** It was noted there was some redundant wording under the Doctoral Committee Heading concerning submitting the Admission to Candidacy Application. **After discussion, it was voted and approved to end the sentence after the word “form.”**

All items were approved as indicated above and are recommended to Graduate Council for approval.

The meeting was adjourned at 5:05.

Respectfully submitted,

Catherine Cox
Graduate Curriculum Coordinator

Thursday September 8, 2016 3:45 P.M.	Graduate Curriculum Committee Meeting	405 Student Services Building
---	--	--

AGENDA

Haslam College of Business

College of Nursing

**Intercollegiate: Bredesen Center for Interdisciplinary Research and
Graduate Education**

+ Indicates add of new Major

HASLAM COLLEGE OF BUSINESS**All Changes Effective Fall 2017****I. COURSE CHANGES**

Learning Goals and Objectives for the Full-time MBA Program:

Application of Business Knowledge and Skills: Apply functional knowledge and skills developed in the first year MBA curriculum to address critical, real-world business issues.

Ethical Decision Making in a Global Context: Identify and effectively evaluate business problems and opportunities in a global market environment.

Presentation Skills Development: Demonstrate the acquisition and utilization of fundamental presentation, data analysis, and communication skills necessary to successfully influence the consideration of new business ideas in an organizational setting.

Collaboration: Perform effectively as a team member.

DEPARTMENT OF FINANCE**(FINC) Finance****REVISE HOURS AND DROP REPEATABILITY****FINC 641 (3) Seminar in Finance**

Formerly: (1-3), Repeatability: May be repeated. Maximum 3 hours.

Rationale: All students taking this class receive 3 hours of course credit. The variable hour setting that is currently available only causes administrative problems. Students often "accidentally" sign up for 1 hour and then have to get the instructor to sign a "change" form to get it changed to 3 hours. Staffing Impact: None Financial Impact: None. Impact on Other Academic Units: None. Learning Outcomes Supported: None. Support from assessment activities: None.

FINC 651 Seminar in Corporate Finance (3)

Formerly: (1-3), Repeatability: May be repeated. Maximum 6 hours.

Rationale: All students taking this class receive 3 hours of course credit. The variable hour setting that is currently available only causes administrative problems. Students often "accidentally" sign up for 1 hour and then have to get the instructor to sign a "change" form to get it changed to 3 hours. Staffing Impact: None Financial Impact: None. Impact on Other Academic Units: None. Learning Outcomes Supported: None. Support from assessment activities: None.

FINC 652 Seminar in Asset Pricing and Markets (3)

Formerly: (1-3), Repeatability: May be repeated. Maximum 6 hours.

Rationale: All students taking this class receive 3 hours of course credit. The variable hour setting that is currently available only causes administrative problems. Students often "accidentally" sign up for 1 hour and then have to get the instructor to sign a "change" form to get it changed to 3 hours. Staffing Impact: None Financial Impact: None. Impact on Other Academic Units: None. Learning Outcomes Supported: None. Support from assessment activities: None.

DEPARTMENT OF MANAGEMENT**(MGT) Management****DROP****MGT 530 Effective Negotiating (3)**

Rationale: No longer taught; has previously only been taught in the MBA program. Staffing Impact: None Financial Impact: None. Impact on Other Academic Units: None. Learning Outcomes Supported: None. Support from assessment activities: None.

DEPARTMENT OF MARKETING AND SUPPLY CHAIN MANAGEMENT**(MARK) Marketing****ADD**

MARK 538 Marketing Insights (3) Provides an advanced experience for students interested in more complex techniques for marketing research and strategic decision-making; it trains students how to identify and apply the appropriate data and tools to back up strategic marketing recommendations.

Rationale: The course has been taught for two years under a MKTG 598 "special topics" designation. This request to assign a permanent course number is being made because the intention is to offer the course on an ongoing basis. Therefore it will no longer be considered a "special topic."
Staffing Impact: None Financial Impact: None. Impact on Other Academic Units: None.

Learning Outcomes Supported: For the Full-time MBA Program:

1. Application of Business Knowledge and Skills: Apply functional knowledge and skills developed in the first year MBA curriculum to address critical, real-world business issues.
2. Presentation Skills Development: Demonstrate the acquisition and utilization of fundamental presentation, data analysis, and communication skills necessary to successfully influence the consideration of new business ideas in an organizational setting.
3. Collaboration: Perform effectively as a team member. This course aligns with Haslam College of Business value of impact. By providing students with the opportunity to translate data into actionable insights to support strategy, it directly prepares them for managerial positions and provides skills that should be applicable throughout their careers.
4. Support from assessment Activities: Assessment of program learning outcomes did not result in this course proposal, however this proposal does support other important goals of the Haslam College of Business as indicated above.

REVISE TITLE AND DESCRIPTION

MARK 535 Projects in Marketing Research (3) Students design and execute a quantitative marketing research project under faculty supervision. Will emphasize the use of marketing research techniques to improve organizational decision-making and relies on briefings, cases, laboratories, and tutorials (as needed) to provide students with the foundational knowledge necessary for executing the research project. Field work may be necessary.

Formerly: MARK 535 Product Innovation, Design, and Development (3) Will help students understand and master the entire new product development process, from innovation through design to launch. Emphasis is placed on active and team-based learning, and the development of both analytical and creative abilities.

Rationale: Three marketing courses are required for Haslam MBA students to fulfill the requirements for a concentration in marketing. This revision updates one of the three elective courses currently offered to Haslam MBA students pursuing a marketing concentration. Staffing Impact: The proposed change will not have any impact on staffing. No new faculty or GTAs will be needed. Financial Impact: The proposed change will not have a financial impact on the department or college. The proposed change merely involves the revision of a course currently being offered. Impact on Other Academic Units: None.

Learning Outcomes Supported: For the Full-time MBA Program:

1. Application of Business Knowledge and Skills: Apply functional knowledge and skills developed in the first year MBA curriculum to address critical, real-world business issues.
2. Presentation Skills Development: Demonstrate the acquisition and utilization of fundamental presentation, data analysis, and communication skills necessary to successfully influence the consideration of new business ideas in an organizational setting.
3. Collaboration: Perform effectively as a team member.
4. Support from assessment activities: Assessment of program learning outcomes did not result in this course proposal, however this proposal does support other important goals of the Haslam College of Business.

DEPARTMENT OF MANAGEMENT**(IOP) Industrial and Organizational Psychology****DROP ACADEMIC DISCIPLINE AND LAST COURSE**

IOP 600 Doctoral Research and Dissertation (3-15)

Rationale: Course and program no longer supported, last students in program have completed requirements and graduated. The rest of the program courses were dropped 1/31/2013 (Grad Council Minutes, G2057, 1/31/2013). Staffing impact: None Financial Impact: none Impact on other units: None. Learning Outcomes Supported: None. Support from assessment activities: None.

II. PROGRAM CHANGES

BUSINESS ADMINISTRATION MAJOR, MBA

Learning Goals and Objectives for Executive MBA and Professional MBA Programs

Leadership Development: Each student will demonstrate the ability to appraise their own leadership strengths and weaknesses; create a leadership development plan with specific, measurable goals to strengthen their leadership potential, assess their progress toward those goals; and revise their plan, as necessary, to support their continued growth and development as a leader.

Application of Knowledge to a Real Company Project: Each student shall assimilate the knowledge of core business disciplines acquired in the classroom and directly apply this knowledge to their workplace so as to achieve the highest level of cognitive learning.

Decision Making in an Integrated and Global Context: By satisfactorily contributing to a team engaged in a competitive Marketplace simulation, each student shall demonstrate an ability to work cooperatively with others to identify and solve business problems in an integrated and global market environment.

Corporate Social Responsibility and Ethics Awareness: Each student shall demonstrate the ability to identify and analyze issues related to corporate social responsibility (CSR), ethics and organizational culture in an applied and integrated business context.

REVISE DESCRIPTION – PROFESSIONAL MBA

In the 2017-2018 Graduate Catalog, revise to delete current text and replace with the following:

Molly Kinard, Director, Professional MBA Program

Bruce Behn, Academic Director, Professional MBA Program

The Professional MBA Program is provided for fully employed professionals. A minimum of five years of work experience is preferred. The emphasis in this program is to provide grounding in the quantitative and qualitative tools of various business functions and a good basis in strategic thinking. Learning is expanded through applying these tools that are the basis for the analysis of various business functions and strategic thinking. Learning is expanded through applying these tools within the student's own organization through a structured project that continues throughout the program. The Professional MBA is the right choice for individuals who wish to enhance their position within their organization by broadening their business knowledge beyond the functional area in which they are currently employed to prepare them for higher level management positions.

The Professional MBA Program operates over three semesters with a hybrid delivery of in-class and online sessions. Requirements for admission includes a completed application, current resume, two letters of recommendations and written essays. The GMAT/GRE may be waived for applicants with 5 or more years of professional work experience or a previous terminal or master's degree. Any request to waive the GMAT/GRE requirement must be submitted with the application package to be reviewed/approved by the director. Additional information on the Professional MBA program can be found at <http://promba.utk.edu>.

Formerly: Molly Kinard, Interim Director, Professional MBA Program; Michael McIntyre, Academic Director, Professional MBA Program.

The weekend Professional MBA is provided for fully employed professionals within commuting distance of the University of Tennessee, Knoxville and who have a minimum of five years of work experience. The emphasis in this program is to provide a good grounding in the quantitative and qualitative tools of various business functions and a good basis in strategic thinking. Learning is expanded through applying these tools within the student's own organization through a structured project each semester. The Professional MBA is the right choice for individuals who wish to enhance their position within their organization by broadening their business knowledge beyond the functional area in which they are currently employed.

The Professional MBA program is three consecutive semesters completed in sixteen months. Classes meet approximately three Saturdays per month and via live, distance learning classes on periodic Tuesday evenings. The program begins in August with an intensive week of classes; then continues with the weekend format. The final fall semester culminates with a week-long marketplace simulation. The GMAT may be waived for applicants with 10 or more years of professional work experience or a graduate degree. Additional information on the Professional MBA program can be found at <http://promba.utk.edu>.

Rationale: The content, purpose, and organization of courses and activities shape every student's experience. The greater diversity of today's student population requires a more flexible approach to transitional support. This proposal is to create a more flexible description for the faculty to upgrade the quality of education with creating programs that provide students with a combination of essential academic skills, rigorous training and on-the-job experience throughout the duration of the program. A more flexible catalog will support entry and progression routes that meet the needs of different students. Staffing Impact: None. Financial Impact: None. Impact on Other Academic Units: None.

Learning Outcomes: The changes proposed are consistent with the Professional MBA program learning objectives:

1. Leadership Development: Each student will demonstrate the ability to appraise their own leadership strengths and weaknesses; create a leadership development plan with specific, measurable goals to strengthen their leadership potential, assess their progress toward those goals; and revise their plan, as necessary, to support their continued growth and development as a leader.
2. Application of Knowledge to a Real Company Project: Each student shall assimilate the knowledge of core business disciplines acquired in the classroom and directly apply this knowledge to their workplace so as to achieve the highest level of cognitive learning.

3. Decision Making in an Integrated and Global Context: By satisfactorily contributing to a team engaged in a competitive Marketplace simulation, each student shall demonstrate an ability to work cooperatively with others to identify and solve business problems in an integrated and global market environment.
4. Corporate Social Responsibility and Ethics Awareness: Each student shall demonstrate the ability to identify and analyze issues related to corporate social responsibility (CSR), ethics and organizational culture in an applied and integrated business context.

Support from assessment activities: There have been multiple student and alumni focus groups and a consistent outcome is the interest in expanding learning to include optional programs, workshops, and experiential learning opportunities. A more flexible catalog will encourage the program faculty to create and offer a richer experience for our students.

REVISE DESCRIPTION – PHYSICIAN EXECUTIVE MBA

In the 2017-2018 Graduate Catalog, revise to delete current text and replace with the following:

Kate Atchley, Director, Physician Executive MBA Program

The Physician Executive MBA is provided for an international audience of physicians. The students for whom this program is designed have an MD, MBBS, or DO degree with five or more years of work experience. The curriculum objectives are the same as those for the Executive MBA, but in the Physician Executive MBA, many of the functional skills are taught in the context of the health care industry with specialized content related to the health care environment. The Physician Executive MBA is the right choice for physicians who want to have a voice in the health care industry, in their own careers, and are seeking a program that allows them to continue their practice while earning their MBA degree.

The Physician Executive MBA is three consecutive semesters completed in twelve months. The class meets in Knoxville for week-long residence periods in January, April, August and December. Between residence periods, live distance learning classes are held each week, and there are asynchronous internet assignments. Applications are accepted for January entry only. Applications are accepted through the year. Applicants to the Physician Executive MBA are not required to take the GMAT. Additional information on the Physician Executive MBA can be found at www.pemba.utk.edu.

Formerly: The Physician Executive MBA is provided for an international audience of physicians. The students for whom this program is designed have an MD, MBBS, or DO degree with five or more years of work experience. The curriculum objectives are the same as those for the Executive MBA, but in the Physician Executive MBA, many of the functional skills are taught in the context of the health care industry with specialized content related to the health care environment. The Physician Executive MBA is the right choice for physicians who want to have a voice in the health care industry, in their own careers, and are seeking a program that allows them to continue their practice while earning their MBA degree.

The Physician Executive MBA is three consecutive semesters completed in twelve months. The class meets in Knoxville for week-long residence periods in January, April, August and December. Between residence periods, live distance learning classes are held each Saturday morning, and there are asynchronous internet assignments. Applications are accepted for January entry only. Applications are accepted through the year. The final application deadline is November 1. Applicants to the Physician Executive MBA are not required to take the GMAT. Additional information on the Physician Executive MBA can be found at www.pemba.utk.edu.

Rationale: Correct inaccuracies in description. Staffing Impact: None Financial Impact: None. Impact on Other Academic Units: None.

Learning Outcomes: The changes proposed are consistent with the Physician Executive MBA program learning objectives:

1. Leadership Development: Each student will demonstrate the ability to appraise their own leadership strengths and weaknesses; create a leadership development plan with specific, measurable goals to strengthen their leadership potential, assess their progress toward those goals; and revise their plan, as necessary, to support their continued growth and development as a leader.
 2. Application of Knowledge to a Real Company Project: Each student shall assimilate the knowledge of core business disciplines acquired in the classroom and directly apply this knowledge to their workplace so as to achieve the highest level of cognitive learning.
 3. Decision Making in an Integrated and Global Context: By satisfactorily contributing to a team engaged in a competitive Marketplace simulation, each student shall demonstrate an ability to work cooperatively with others to identify and solve business problems in an integrated and global market environment.
 4. Corporate Social Responsibility and Ethics Awareness: Each student shall demonstrate the ability to identify and analyze issues related to corporate social responsibility (CSR), ethics and organizational culture in an applied and integrated business context.
- Support from assessment activities: None

REVISE DESCRIPTION – EXECUTIVE MBA

In the 2017-2018 Graduate Catalog, revise to delete current text and replace with the following:

Kate Atchley, Director, Executive MBA – Healthcare Leadership track
Shay Scott, Director, Executive MBA – Global Supply Chain track
Michael McIntyre, Director, Executive MBA – Strategic Leadership track

The Executive MBA is provided for a national and international audience of managers holding middle and upper level positions in organizations that support their attainment of an MBA degree. The students for whom this program is designed usually have ten or more years of work experience and are currently in management positions. Typical students bring a greater knowledge of business fundamentals than is true of other MBA programs. The Executive MBA places considerable emphasis on global business, strategic thinking, and individual leadership skills. In addition to the traditional Executive MBA curriculum, the program also offers specialized areas of focus (e.g., supply chain management, healthcare, and strategic leadership) providing students the opportunity to choose an area relevant to their career goals and current business trends. The program has a heavy emphasis in strategic thinking and leading-edge management concepts. The Executive MBA is the right choice for individuals who are in positions of broad responsibility or who have been designated to fulfill such roles within their organizations in the future.

The Executive MBA is a cohort based, three (consecutive) semester program completed in a period of twelve to sixteen months depending on the student's chosen area of focus. The class meets for residence periods approximately once per quarter starting in January and ending in December. One or more of the residence periods may occur at international locations. Off campus work includes distance learning classes and requires substantial and regular contact with faculty and other participants. The project work in the Executive MBA is a large scale management project running for the duration of the program. Students work with managers in their own organizations to choose a project of significant scale and scope. Each project has a faculty advisor.

Applications are accepted for January entry only. Applications are accepted on a rolling basis, with early application encouraged. Applications received after September 1 will be considered subject to space availability. The GMAT may be waived depending on work experience. Additional information on the Executive MBA can be found at <http://execed.utk.edu/choose-mba.asp>

Formerly:

Kate Atchley, Director, Executive MBA – Healthcare Leadership track
Shay Scott, Director, Executive MBA – Global Supply Chain track
Michael McIntyre, Director, Executive MBA – Strategic Leadership track

The Executive MBA is provided for a national and international audience of managers holding middle and upper level positions in organizations that support their attainment of an MBA degree. The students for whom this program is designed usually have ten or more years of work experience and are currently in management positions. Typical students bring a greater knowledge of business fundamentals than is true of other MBA programs. The Executive MBA places considerable emphasis on global business, strategic thinking, and individual leadership skills. In addition to the traditional Executive MBA curriculum, the program also offers specialized areas of focus (e.g., supply chain management, healthcare, and strategic leadership) providing students the opportunity to choose an area relevant to their career goals and current business trends. The program has a heavy emphasis in strategic thinking and leading-edge management concepts. The Executive MBA is the right choice for individuals who are in positions of broad responsibility or who have been designated to fulfill such roles within their organizations in the future.

The Executive MBA is a cohort based, three (consecutive) semester program completed in a period of twelve to sixteen months depending on the student's chosen area of focus. The class meets in Knoxville for residence periods approximately once per quarter starting in January and ending in December. One or more of the residence periods occur at international locations. Off campus work includes distance learning classes and requires substantial and regular contact with faculty and other participants. The project work in the Executive MBA is a large scale management project running for the duration of the program. Students work with managers in their own organizations to choose a project of significant scale and scope. Each project has a faculty advisor. Applications are accepted for January entry only. Applications are accepted on a rolling basis, with early application encouraged. Applications received after September 1 will be considered subject to space availability. The GMAT may be waived depending on work experience. Students will receive materials for study in mid-November preceding the January start date. Students whose native language is not English must take the Test of English as a Foreign Language (TOEFL) unless they are United States citizens or have earned a degree from an accredited United States college or university in the past two years. Additional information on the Executive MBA can be found at <http://execed.utk.edu/choose-mba.asp>

Rationale: Correct inaccuracies in description. Staffing Impact: None Financial Impact: None. Impact on Other Academic Units: None.

Learning Outcomes: The changes proposed are consistent with the Executive MBA program learning objectives:

1. Leadership Development: Each student will demonstrate the ability to appraise their own leadership strengths and weaknesses; create a leadership development plan with specific, measurable goals to strengthen their leadership potential, assess their progress toward those goals; and revise their plan, as necessary, to support their continued growth and development as a leader.
 2. Application of Knowledge to a Real Company Project: Each student shall assimilate the knowledge of core business disciplines acquired in the classroom and directly apply this knowledge to their workplace so as to achieve the highest level of cognitive learning.
 3. Decision Making in an Integrated and Global Context: By satisfactorily contributing to a team engaged in a competitive Marketplace simulation, each student shall demonstrate an ability to work cooperatively with others to identify and solve business problems in an integrated and global market environment.
 4. Corporate Social Responsibility and Ethics Awareness: Each student shall demonstrate the ability to identify and analyze issues related to corporate social responsibility (CSR), ethics and organizational culture in an applied and integrated business context.
- Support from assessment activities: None.

COLLEGE OF NURSING**All changes effective Fall 2017****I. PROGRAM CHANGES****REVISE NURSING MAJOR, MSN (NURSING ADMINISTRATION CONCENTRATION)**

In the 2017-18 *Graduate Catalog* revise requirements under the heading, "Concentration (choose one)" for the nursing administration concentration as follows:

~~NURS 589, NURS 594, NURS 595, NURS 590, NURS 591 Nursing Administration I and II = 21 hours~~

~~Formerly: Concentration (choose one)~~

~~NURS 590, NURS 591 Nursing Administration: Macro/Micro Analysis = 12 hours~~

Rationale: Corrects degree requirements for MSN, Nursing Administration concentration to reflect curriculum change made last year eliminating three 3-credit hr. elective courses students take for completion of program. Impact on other units: None. Financial impact: None.

INFORMATIONAL ITEM:

Program changes: revise Nursing major, MSN (Nursing Administration concentration) – above strikethrough

The Curriculum Committee had questions concerning the above revision to the program requirements from 12 to 21 hours. It was noted that 9 hours of elective courses were dropped last year and 3 new courses added to replace the electives. However, the revision to the program hour requirements was not submitted in last year's proposals.

Informational Item: The Curriculum Committee recognized the above error, and with confirmation from Dr. Gunther as to the error, **the Committee voted and approved an adjustment to the current 2016-17 Graduate Catalog to revise the hours from 12 to 21 so that the current catalog will show accurate requirements for the nursing administration concentration.**

Email sent to Dr. Gunther (cc: Marian Roman and Robert Fuller). Dr. Gunther confirmed this was an oversight and approved of the immediate change to the catalog.

REVISE NURSING MAJOR, PHD

In the 2017-18 *Graduate Catalog* revise the second sentence under the heading "Doctoral Committee" as follows:

The student's comprehensive examination committee consists of the faculty serving on the student's dissertation committee.

Formerly: Doctoral Committee

The student's comprehensive examination committee consists of the faculty teaching core courses and one representative from the cognate area

Rationale: Reflects change in composition of comprehensive examination committee. Impact on other units: None. Financial impact: None.

Bredesen Center for Interdisciplinary Research and Graduate Education**All changes effective Fall 2017****I. COURSE CHANGES****ADD NEW ACADEMIC DISCIPLINE AND COURSES****Data Science and Engineering (DSE)**

DSE 502 Registration for Use of Facilities (1-15) Required for the student not otherwise registered during any semester when the student uses university facilities and/or faculty time before degree is completed.

Grading Restriction: Satisfactory / No Credit grading only.

Repeatability: May be repeated.

Credit Restriction: May not be used toward degree requirements.

Registration Restriction(s): Minimum student level – graduate.

DSE 511 Introduction to Data Science and Computing I (3) Topics include: version control, scripting languages, relational and non-relational databases, proper use of data structures, introduction to data science work flows, introduction to project management, and applications.

Registration Restriction(s): Minimum student level – graduate.

DSE 512 Introduction to Data Science and Computing II (3) Topics include: platforms for scalable computing including Map Reduce, Hadoop, Spark, and HPC, setting up computing in cloud, and modern data science work flows.

Registration Restriction(s): Minimum student level – graduate.

DSE 537 Introduction to Data Analysis and Data Mining (3) Topics include: data visualization, data summaries, missing data, study design, communicating results, linear regression, ANOVA, decision trees, random forests, support vector machines, model diagnostics, cross validation, bootstrap, reproducible research skills. Hands on projects.

Registration Restriction(s): Minimum student level – graduate.

DSE 592 Internship (1-3) Individual project to further studies in data science research and allow students to engage in an established external entrepreneurship and/or policy environment.

Registration Restriction: Minimum student level – graduate; Instructor permission required.

DSE 593 Independent Study (1-3)

Repeatability: May be repeated. Maximum 9 hours.

Credit Restriction: Only 6 hours may be applied toward degree requirements.

DSE 599 Seminar (1)

Grading Restriction: Satisfactory / No Credit grading only.

Repeatability: May be repeated. Maximum 15 hours.

Credit Restriction: Only 3 hours may be applied toward degree requirements.

DSE 600 Doctoral Research and Dissertation (3-15)

Grading Restriction: P / NP grading only.

Repeatability: May be repeated

Registration Restriction(s): Minimum student level – graduate.

ADD WITH VARIABLE TITLE**DSE 597 Special Topics (1-3)**

Repeatability: May be repeated. Maximum 9 hours.

DSE 697 Special Topics (1-3)

Repeatability: May be repeated. Maximum 9 hours.

Rationale: Needed for new DSE program. See details below for new program. Impact on other units: See details below for new program.

Financial impact: See details below for new program.

II. PROGRAM CHANGES

+ ADD NEW MAJOR AND DEGREE (PENDING THEC APPROVAL)

DATA SCIENCE AND ENGINEERING MAJOR, PHD*

**This program is pending approval from the Tennessee Higher Education Commission. Students will be admitted to the major should the program be approved.*

The Bredesen Center for Interdisciplinary Research and Graduate Education offers a graduate program leading to the Doctor of Philosophy (PhD) degree in Data Science and Engineering (DSE). This interdisciplinary degree is a collaborative effort supported by selected faculty from various colleges at the University of Tennessee, Knoxville, the UT Health Sciences Center, the University of Tennessee, Chattanooga, and research staff of Oak Ridge National Laboratory. These research and educational leaders are appointed as faculty members of the Bredesen Center for Interdisciplinary Research and Graduate Education. Members of the Bredesen Center faculty determine the curriculum and serve as the primary resource for the teaching, research, and mentoring of the students admitted to the program. The Bredesen Center Graduate Admissions Committee makes decisions on admissions, transfer, evaluation, and continuation of graduate students in the program.

Admission Requirements

In order to be admitted to the PhD program in data science and engineering, student applicants must fulfill the general admission criteria for the Graduate School of the University of Tennessee Knoxville. In addition, the student must have a Bachelor of Science degree in either engineering or a scientific field (e.g., analytics, biology, chemistry, computational science, mathematics, physics, statistics, etc.), or the equivalent. Students with other undergraduate degrees may also be admitted on a case-by-case basis by the Bredesen Center Graduate Admissions Committee. Dependent on the student's background, additional coursework may be required to satisfy co- and prerequisites.

Requirements

A minimum of 72 hours is required beyond the bachelor's degree, exclusive of credit for an MS thesis, and completion of the core requirements, as outlined in the section on Course Requirements. Of this number, a minimum of 24 and up to 36 hours of course 600 Doctoral Research and Dissertation and six hours of 600-level coursework at UTK will be required.

No later than one year after entering the program, each student must take a qualifying examination. A student must pass the qualifying examination to proceed in the PhD program and to engage in dissertation research.

No later than the first semester of the fourth year following entrance into the PhD program, each student must take and pass a comprehensive examination that includes presentation and approval of the proposed dissertation research. After passing the comprehensive exam, the student should submit the Admission to Candidacy Application to the Graduate School. Admission to candidacy indicates that the student has demonstrated the ability to do acceptable work in the area of study and has made satisfactory progress toward the degree. This action usually connotes that all prerequisites to admission have been completed and the program of study/research has been approved (see details in a later section).

After completion of the dissertation, prior to graduation, each student must pass a dissertation defense examination administered by the student's doctoral committee.

Course Requirements

Out of the 72 hours required for the program, 36 hours of coursework is required beyond the BS degree. The following 36 hours of coursework or their equivalent must be completed at a minimum, including the Core Curriculum for Data Science, a Knowledge Breadth Curriculum, a Knowledge Specialization for Domain Science Curriculum, and Seminar Series, as summarized below. Students with Master's degrees must complete at least 24 hours of graduate coursework. Students must fulfill all requirements for the Core Curriculum, the Knowledge Breadth Curriculum, Knowledge Specializations for Domain Science, and the Seminar Series utilizing both MS and PhD coursework as appropriate and approved by the department.

A. Core Curriculum for Data Science (21 hours)

Students must complete 21 hours in the following core courses (or substitute, approved in advance).

DSE 511
DSE 512
DSE 537
MATH 525 / STAT 563

MATH 526
MSE 510
BZAN 645 / BZAN 646 / ECE 571

B. Knowledge Breadth Curriculum (6 hours)

Students must complete six hours by selecting appropriate courses in the following areas.

- Political, social, legal, ethical, and security issues related to data issues
- Entrepreneurship, leadership, and management

C. Knowledge Specialization Curriculum for Domain Science (6 hours)

Students must choose courses from participating departments and approved by the Bredesen Center's Assistant Director for Data Science related to the following disciplines.

- Health and Biological Sciences
- Advanced Manufacturing
- Materials Science
- Environmental and Climate Science
- Transportation Science
- National Security
- Urban Systems Science
- Advanced Data Science

D. DSE 599 Seminar (3 hours)**Advisor/Major Professor**

Each graduate student must have an advisor/major professor. This professor advises the student about course selection, supervises the student's research, and facilitates communication within the degree program and/or student's major department, to other departments, and with the Graduate School relative to requirements. A temporary advisor may be assigned to direct the entering student's work during the period in which the student is becoming acquainted with the institutions and determining the focus of research interests. Once the major professor is determined, the major professor and the student together select a doctoral committee. The student is expected to maintain close consultation with the major professor and other members of the doctoral committee with regard to progress in the program.

Doctoral Committee

The major professor directs the student's dissertation research and chairs the doctoral committee. The student and major professor identify a doctoral committee composed of at least four faculty members holding the rank of assistant professor or above, three of whom, including the chair, must be approved by the Graduate Council to direct doctoral research. At least one member must be outside the Bredesen Center faculty. Committee members should be chosen to ensure multidisciplinary breadth. The Center Director has oversight responsibility to ensure the multidisciplinary nature of the committee. A doctoral student, in collaboration with the major professor, should begin to form the doctoral committee during the first year of study. Once formed, the doctoral committee, by request of the major professor, will meet as a group with the student to ensure timely progress toward the degree. At a minimum, the committee should meet at least once during each academic year.

Admission to Candidacy

Admission to candidacy indicates that the student has demonstrated ability to do acceptable graduate work and that satisfactory progress has been made toward the degree. This action usually connotes that all prerequisites to admission have been completed and a program of study has been approved.

A student may be admitted to candidacy for the doctoral degree after passing the comprehensive examination and maintaining at least a B average in all graduate coursework. Each student is responsible for filing the Admission to Candidacy form. ~~which lists all graduate courses to be used for the degree, including courses taken at the University of Tennessee or at other institutions prior to admission to the doctoral program. The Admission to Candidacy form is signed by the doctoral committee.~~

Graduate Student Examinations

This section provides a description of the graduate student examination requirements for the PhD degree program. Three examinations are required as part of the doctoral program: qualifying examination, comprehensive examination, and defense of dissertation examination.

Qualifying Examination

The qualifying examination is developed, administered, and graded by the faculty (or designated subset of the faculty) of the PhD program under the coordination of the Bredesen Center Director. The Data Science and Engineering doctoral program requires students to be able to investigate and conduct research on a variety of problems. The qualifying examination tests the capabilities of a student through the preparation of a professional quality investigative research report and accompanying presentation that addresses one of several questions in data science and engineering. In case of failure, the candidate may appeal to retake the examination through the Bredesen Center Graduate Curriculum Committee within 30 days of notification of the result. If the appeal is granted, the student must retake the examination at the next offering. The result of the second examination is final. Completion of the qualifying exam enables students to begin working on dissertation research.

Comprehensive Examination

The Comprehensive Examination may be completed as early as the end of the second year following entrance into the PhD program and prior to admission to candidacy. Students should aim to complete the comprehensive exam by the end of the third year and must complete it no later than the first semester of the fourth year unless extenuating circumstances are involved. The timing is late enough in a student's academic program to permit most of his/her graduate course work to be covered on the examination, and early enough to permit modification of the student's program based on the results of the exam.

Two requirements must be satisfied before a student takes the Comprehensive Examination.

1. A written Dissertation Proposal, approved by the major professor, must be submitted to each member of the student's Doctoral Committee two weeks prior to the examination.
2. Each member of the student's Doctoral committee must agree that the student is ready to take the Comprehensive Exam. The committee member will communicate to the major professor when they are satisfied that the student is ready to take the Comprehensive Exam.

The Comprehensive Examination will consist of the student constructing and defending his or her dissertation research proposal to the committee in a format deemed acceptable by the student's Doctoral Committee. Typically, an oral defense is sufficient for this examination, although a written component may be administered by the committee at their discretion. Once the Comprehensive Examination is passed, the student should file for and be admitted to candidacy. At the discretion of the Doctoral Committee, supplemental reexaminations for the Comprehensive Examination and/or proposed dissertation research may be required. In case of failure, the candidate may not apply for reexamination until the following semester. The result of the second examination is final.

Defense of Dissertation Examination

A doctoral candidate must pass an oral examination on the dissertation. The dissertation, in the form approved by the major professor, must be distributed to the committee at least two weeks before the examination. The examination must be scheduled through the Graduate School at least one week prior to the examination and must be conducted in university-approved facilities. The examination is announced publicly and is open to all students and faculty members. The defense of dissertation will be administered by all members of the doctoral committee after completion of the dissertation and all course requirements. This examination must be passed at least two weeks before the date of submission and acceptance of the dissertation by the Graduate School. The major professor must submit the results of the defense by the dissertation deadline.

Supporting Information:

Task Force. In July 2015, UTK Chancellor Jimmy Cheek and ORNL Director Thom Mason convened a Task Force to study opportunities for research and education in data science. The task force was composed of 11 top researchers from ORNL, 11 faculty experts from UTK, the Dean of the UTK Graduate School, a UT/ORNL Governor's Chair at the UT Health Sciences Center, and the head of the Computer Science and Engineering Department from UT Chattanooga. The task force identified seven key areas where future progress will depend critically on the ability to analyze big data: health and biological sciences, advanced manufacturing, materials science, environmental and climate science, transportation science, national security, and urban systems science. Beyond being areas of strength and existing investment, these areas are all priorities for the State of Tennessee.

UT leadership. A meeting on August 1, 2016 was held with Dean Dixie Thompson, Vice President Katie High, Associate Vice President India Lane, and Associate Vice Provost Mary Albrecht to lay out the DSE proposal idea and to understand the steps needed for approval. There is strong support by each of these individuals for proceeding with this approval process.

Provost. A meeting will be held on August 24, 2016 to build on informal discussions in the past and lay the groundwork for approval from the provost.

THEC. After the August 1 meeting, India Lane sent the following letter of notification concerning DSE to Betty Dandridge at THEC, as copied below.

August 1, 2016

To: Ms. Betty Dandridge-Johnson

From: India Lane and Katie High, UT Office of Academic Affairs and Student Success

Re: Letter of Notification: UTK/ORNL Data Science and Engineering (DSE) PhD Proposal; Proposed CIP: TBD

The University of Tennessee, Knoxville (UTK) and Oak Ridge National Laboratory (ORNL) are again partnering to develop a world-class, contemporary PhD program. We now live in the world of "big data," the massive amounts of information streamed from health records, GPS, cellphones, traffic sensors, climate sensors and other sources. This PhD program will recruit and train elite caliber students to apply data science and "big data" technology to solve critical problems in areas such as healthcare, biological science, advanced manufacturing, materials science, environmental science, transportation and national security.

Based on the highly successful model of the Energy Science and Engineering PhD program, the proposed program will be an interdisciplinary PhD leveraging the talent and resources available across UT and ORNL. The program is well-suited within the mission and strategic plan of UTK to increase research efforts and graduate student education and serves the state's master plan to increase doctoral degrees in high demand fields. An ad-hoc task force has already been formed and convened to frame the overall goals and format of the program. The full Letter of Application is in preparation for a proposed implementation date of August, 2017.

The extensive resources of ORNL, as well as UTK and other UT campuses will provide equipment, supercomputers and faculty mentors. Faculty participation is also expected from UT, Chattanooga and the UT Health Science Center in specialized areas of expertise. Governor Haslam has committed significant start-up funding to develop and house the program within the Bredesen Center for Interdisciplinary Research and Graduate Education. After the first year of the program, graduate student stipends are typically funded by research grants.

We are unaware of any similar programs under development in the region but recognize potential competitors at elite institutions worldwide. In the United States, institutions including MIT, Duke, Stanford and the University of Michigan are investing in "big data" research and graduate programs.

We plan to complete the Letter of Application this fall to accommodate a site visit review before the end of the calendar year. If the timetable stays on track, UTK Graduate School and UT Board of Trustees approvals will proceed through early spring, leading to THEC review in April 2017. Please let me know if you have any concerns or questions about this proposal as we proceed.

Rationale: The University of Tennessee, Knoxville and Oak Ridge National Laboratory propose a new interdisciplinary PhD program in Data Science and Engineering (DSE). The program will recruit students from the world's leading institutions and train them to apply data science and "big data" technology to solve critical problems in science, engineering, and society at large. The program focuses on seven research areas: health and biological sciences, advanced manufacturing, materials science, environmental and climate science, transportation science, national security, and urban systems science. Since these areas are priorities for the State of Tennessee, the new DSE doctoral program will meet the state's growing need for data analytics specialists.

The potential for big data analysis is limitless and current research is necessary to identify how to extract new information when analyzing large disparate data sources. For example, by analyzing electronic health records on a massive scale, we can identify ways to improve patient care and reduce costs. Combining data from cellphones, GPS, and traffic sensors can improve traffic flow and emergency responsiveness.

Many leading institutions—such as Cambridge, MIT, Duke, and Stanford—recognize the potential of big data analysis and are investing in this area. For example, the University of Michigan recently announced a new \$100 million initiative aimed at working with big data to allow research into areas like driverless cars, medicine, and climate change.

The Bredesen Center's Energy Science and Engineering (ESE) PhD program has experienced tremendous success since its creation six years ago. Enrollment has grown to 138 doctoral students working on dissertation research in various areas relating to energy. The program also has a focus on entrepreneurship and several students have received investor funds to bring their research to market. The ESE program attracts top-tier students from around the world with 35 international students from Africa, Asia, the Middle East, and South America. The Bredesen Center is home to 11 national fellowship recipients, including National Science Foundation Graduate Fellowship (3), the National Defense Science and Engineering Graduate Fellowship (2), the Nuclear Nonproliferation and International Safeguards Fellowship (2), the Hydro Research Foundation Fellowship, the Nuclear Forensics Graduate Fellowship, and the Nuclear Energy University Program Fellowship. The Bredesen Center is also home to one of UT's four newest Fulbright Fellows.

By duplicating the ESE program's successful model as well as leveraging the vast expertise and relationship between UTK and ORNL, the two institutions have a unique opportunity to become a national leader in the area of data science and big data analytics.

Administration will include a director from UTK and assistant directors from ORNL, the UT Health Sciences Center (UTHSC), and the University of Tennessee at Chattanooga (UTC) and UTK.

Impact on other units: The DSE impact on other units will be substantial in various ways.

Research output and collaborations. Data science is an interdisciplinary area, combining technical skills and innovation in areas of computer science, mathematics, and statistics with the big data challenges in a host of domain areas, including health and biological sciences, advanced manufacturing, materials science, environmental and climate science, transportation science, national security, and urban systems science. The interdisciplinary nature of the program will foster collaborations between faculty in various units leading to new areas of research and successful grant applications.

Courses. The Bredesen Center will develop new courses involving core topics related to data science and analytics, adding to existing departmental courses that relate to data science. Courses developed by the Bredesen Center (e.g., DSE511, 512, and 537) would be attractive to graduate students enrolled in disciplinary graduate programs in various departments at UTK. In addition, DSE degree students would enroll in disciplinary courses in associated departments enhancing enrollments. The Bredesen Center's DSE directors will work closely with the departments teaching required core courses and will advise those departments of the potential for increased enrollments.

Graduate student recruiting. As with the ESE doctoral program, the Bredesen Center will recruit to UTK top graduate students from across the country and the world - students who would not have come to UTK for a specific disciplinary doctoral program. The DSE students will perform

cutting edge dissertation research with affiliated faculty from departments at UTK and ORNL, thereby increasing the research output of both institutions. In addition, students of high caliber demonstrate their innovation and drive by organizing initiatives in various aspects of university life, e.g., Bredesen Center grad student leadership in forming and running a local Women in STEM Research Symposium in April of the last two years. As with the ESE program, the recruiting process will also generate referrals for strong graduate students to existing disciplinary programs.

System-wide collaboration. Data science is an area in which various units of the UT system can make substantial contributions. The University of Tennessee Health Sciences Center will play a role in the DSE doctoral program by virtue of faculty expertise in data science relative to the health care field. UT Chattanooga will contribute through its College of Engineering and Computer Science and, in particular, via the SimCenter, which integrates data science with core strength in applied computational simulations.

Benefit to the State of Tennessee. Data science, engineering, and analytics are areas of great importance to the State of Tennessee and offer great potential value in both increased efficiency at the government level and in growth and development for entrepreneurial and existing enterprises. The supercomputing facility at ORNL (currently the second largest computer in the world) can be leveraged in this field to benefit the State of Tennessee in many ways. Electronic health records, when analyzed on a massive scale, should be able to identify more efficient and effective ways to treat patients. Cell phones, GPS technology, and traffic sensor data can be combined to improve traffic flow and react to emergencies more quickly and effectively. Big data repositories on the web will allow people to electronically access, share, and create music, arts, literature, and other cultural activities in new and innovative ways. The DSE doctoral program will meet Tennessee's growing need for data analytics specialists, for science, health care, transportation, and a host of other industries.

Financial impact: A proposed one-time \$6 million allocation from the State of Tennessee will fund the new DSE program. The Bredesen Center would house the program and it would follow the Center's current model which allows for a partial return of off-campus overhead and tuition to replenish initial student funding expenses. The Bredesen Center is prepared to fund course instruction for the core curriculum when necessary.

ATTACHMENT 4
Minutes – September 8, 2016
Graduate Associate Deans
405 Student Services Building
2:00 – 3:30PM

Members Attending: Dixie Thompson (Vice-Provost and Dean), Joan Rentsch (Communication and Information), Jeffrey Fairbrother (Education, Health, and Human Sciences), Mary Gunther (Nursing), Alex Long (Law), Sherry Cummings, (Social Work), Masood Parang (Engineering), Bruce Behn (Business), Katherine Ambroziak (Architecture and Design), Stephen Kania (Veterinary Medicine)

Ex Officio: Holly Mercer (University Libraries), Stephanie Galloway (Graduate School), Yvonne Kilpatrick (Graduate School)

1. **Welcome and meeting called to order** at 2 p.m. by Dixie Thompson.
2. **Minutes of the August 11, 2016 meeting were approved** as presented.
3. **Graduate School Updates – Dixie Thompson**

Speaker Nominations: The Associate Deans were asked to make recommendations of students who would be good candidates to deliver the speech at hooding. If there is someone in your college who stands out, email Dr. Thompson @ GradSchoolDean@utk.edu with a nomination letter and the student's CV by September 30.

Student Appeals: There are four students with appeals coming before Council this semester. (Note: The Appeals Committee will meet next week to discuss them, but it will not make decisions at that time).

Professional Development Awards: We get approximately \$100,000 to distribute for these awards and currently none of it is directly benefitting our graduate students. We want to revise the distribution so that it allows faculty and students to pair up to work together in an arena of both of their interests. Dr. Thompson distributed a draft of proposed revisions (see handout: "Student/Faculty Research Awards") for the Associate Deans to review and discuss. The response was favorable with the discussion focusing on:

- adding an approval line for the major professor;
- questions about the guidelines for use and reporting;
- requiring that all compliance guidelines be met;
- having the faculty member carry the burden for how the results will be disseminated.)

Dr. Thompson will take the draft and notes from today's discussion to the Professional Development Committee and see how they would like to proceed.

Graduate Admissions Report (Yvonne Kilpatrick): Yvonne reported that departments have done a great job at reducing the outstanding applications (currently only 5 remain). Admission stats for Fall 2016 term of entry are:

- 6042 Applications
- 2146 Admitted (includes 1 English Proficiency Conditional Admit)
- 2820 Denied by the departments

- 577 Denied by Graduate Admissions
- 482 declined or withdrew their admission
- 17 pending decision in departments
- 0 pending decision in Graduate Admissions
- At the 14th day, **1350 newly admitted students were registered for Fall 2016** (an enrollment yield of 63%)
- Last year, 1369 newly admitted students were registered for Fall 2016 at the 14th day count (an enrollment yield of 69%)

Fellowships: Dr. Thompson announced that the Graduate School will be streamlining the fellowship application process, making changes that will help it to operate more smoothly for departments. We also want to get in front of the April 15 deadline that graduate schools face by offering awards earlier as an incentive for applicants to attend UT. One change is that we will move up the deadline for departments to submit fellowship applications to the Graduate School to approximately February 1. We are developing the full calendar now and clarifying the details and instructions for each fellowship. We are also looking to see if there is a way to use the ADMIT system in this process (making sure to keep it clear who is being endorsed for a fellowship vs. those who are being offered admission). Additional information will be distributed by October.

4. **Brainstorming for AY 16-17:** Dr. Thompson asked the group to help brainstorm on three areas: Data needs (Graduate Blueprint), Resource Needs, and Distance Ed.

Data Needs: Dr. Thompson distributed a draft of the Graduate Blueprint, which will track graduate student progress from the time of admission through placement. She asked the associate deans to look over it, specifically to address what data needs to be provided centrally:

- What do we need to prioritize?
- What needs to come first?
- Are there things that are not on the list that should be?

Other discussion points/issues:

- Academic Unit Statistics
- Financial Aid (it can be difficult to determine; it is already on the list)
- GPAs (of last degree? Incoming GPA?)
- The GTA/GRA/GA information in the Academic Unit Statistics can be difficult to interpret. We need clear definitions of each group and an understanding of the source for this data.
- Time to degree (that can also be difficult to determine, especially with stops and starts)
- Internships? Placement?
- Some information is contextualized with colleges: (Dr. Thompson noted some things will always be unit-by-unit capture.) At the same time, we have data out there that isn't being used.

Dr. Thompson will continue to provide updates on the project as information becomes available.

Resource Needs: We often think, "we could grow with more money," but what would really help? What are our priorities and what will help transform graduate education at UTK?

Discussion focused on:

- Helping our Brand Rating
 - Publications, grants, getting the word out
 - Presentations, papers, attracting quality faculty
- More GTA lines with fee waivers/discussion about stipends & equity;
- Making sure positions are strategically placed;
- Centralized assistantship lines at the university level (only some colleges reexamine assistantships each year, most are allocated similarly each year)
- Comparing our practices to that of our aspirational peers.

Distance Education:

Historically we have not emphasized distance education; some colleges were interested, but most were not. We want to look at this more closely: What tuition model and departmental structure would you like to see? What do we need to look at? Discussion included:

- Equipment & facilities: what can we do on our own? (perhaps ask Jennifer Gramling what is already available for use on campus)
- Tuition – currently both out of state and in-state models. We are already more expensive than many others.
- Currently there is a lot of variation across departments who offer DE programs;
- Brief discussion re: existing models and pending considerations (DSW vs. MSW; Social Work, Nursing, Communication & Information, etc.)
- Discussed recovery monies: started with 80% recovery originally. That is now reduced. Current rate?
- Cutting back recovery money for some means having to close down offerings
- If more units want to pursue DE, they will need support and help with start up

Dr. Thompson thanked the Associate Deans' for their feedback today and as we move forward on each of these issues.

Other Items?

Graders: (Discussion item only: no action taken.) Bruce Behn inquired about using Master's students as graders in other graduate courses. For example, students in Business grading Nursing students. The committee discussed pros and cons, how it would be determined who would grade who, comparing the grading of multiple choice exams vs. essay exams. The overall consensus in the discussion was that it seems the process would be difficult to oversee and maintain standards.

With no further business, the meeting adjourned.

Our next meeting is **October 13, 2016**.