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Graduate Council Minutes

Graduate Council

12-1-2022

Graduate Council Minutes - December 1, 2022

Graduate Council

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THE UNIVERSITY OF TENNESSEE

December 1, 2022

Members present: Meschke, L. (Chair), Aydeniz, M., Ayo, A., Cathey, A., Chaffin, K., Chappell, L. (Graduate Student Senate Vice President), Cho, M., Dickerson, A., Fields, G. (Graduate Student Senate President), First, J., Frimu, R., Gao, Y., Geidner, N., Gerhold, R., Guo, H., Hewett, K., Jalata, A., Lang, M., Laursen, S., Lim, J., Love, A., Mannik, J., Marshall, S., McCord, R.P., Misawa, M., Mohsin, M., Montgomery, K., Neal, A., Newkirk, K., Ostrowski, J., Ownley, B., Palies, P. (UTSI), Rosenbaum, B., Sachs, A., Schmidt, H., Thompson, P., (Graduate Council Chair-elect), Uzonyi, G.

Ex-Officio members present: Ambroziak, K., Anderson, D., Brothers, E., Collins, C., Gramling, J., Kupritz, V., Lane, I., McConville, B., Mercer, H., Odoi, A., Ohnesorg, S., Steele, J., Sullivan, M., Thompson, D., Cox, C.

1. **Call to Order and Welcome** (Laurie Meschke)

The Graduate Council Zoom meeting was called to order by Graduate Council Chair, Laurie Meschke on Thursday, December 1, 2022, at 3:00 p.m.

2. **Minutes of the Preceding Meeting**

Meschke reported the November 3, 2022, Graduate Council Minutes were approved electronically on November 23, 2022.

3. **Committee Reports**

➤ **Academic Policy Committee** (Siris Laursen, chair) **Attachment 1**

We have two APC items coming forward for a vote.

1. Credit Hour definition: a joint proposal for both the undergraduate and graduate Academic Policy Committees to update the credit hour definition.
2. Policy related to submission of official transcripts from all previous institutions.

Vote for Item 1: Credit Hour definition – majority approved, 0 opposed, 2 abstained

Vote for Item 2: Policy related to submission of official transcripts – majority approved, 0 opposed, 2 abstained

➤ **Appeals Committee** (Phyllis Thompson, chair)

- No appeals were submitted.

➤ **Curriculum Committee** (Sybil Marshall for Avigail Sachs) **Attachment 2**

For the November 17, 2022, Graduate Curriculum Committee meeting, all items were approved as reported and are recommended to Graduate Council for approval.

Vote: Voting members, please vote to approve the November 17 Graduate Curriculum Report. Voting results: majority approved, 0 opposed, 1 abstained.

- **Student Faculty Research Awards** (Dixie Thompson, chair)
 - Thanks to the SFRA committee for doing an excellent job of reviewing applications. There were 85 applications submitted coming from 8 different colleges and totaling over \$384,000.
 - The committee awarded 30 proposals from 7 colleges. The total amount awarded was \$130,600.
 - The spring 2023 deadline for applications is February 10.

4. **Administrative Reports and Announcements:**

Deans Update: (Dixie Thompson)

- Graduate Hooding is Dec 16 at 3PM. Please come and join in the celebration of our students. Ashley Reeves is our guest speaker. Ashley began as a UT student in 2015; earned her DVM degree in 2019; and will graduate with a PhD in Comparative and Experimental Medicine this fall.
- The semester ends late this year compared to years past, so the academic standing reports won't be available until Dec 20. That creates difficulty in making all the needed Banner updates and notifying students and departments before the winter break. This may mean that updates to departments and students won't be complete until the first week in January.
- We are finalizing the updates for the Curriculog implementation. I feel confident that we can begin our testing and training in spring semester.

Graduate Student Senate Update (George Fields, GSS President)

- Travel Awards: I am happy to report 133 students have received travel awards totaling \$73,000.00, with the average award totaling \$550.00.
- Academic Support Awards: the \$150,000.00 allocated for this year has been spent. We gave 443 awards with an average award of \$338.00. Between these two awards, we have assisted almost 600 students with providing direct financial aid to help offset cost associated with presenting research and as graduate students here on Rocky Top.
- Collaboration and networking: we collaborated with Big Orange Pantry and the Basic Needs Office through an Open House during the Hunger and Homelessness Awareness Week. We were there several hours on the morning of November 15. Undergraduate students, graduate students, and staff attended exploring the resources the Pantry has to offer as well as other basic needs associated offices on campus. Our goal was to help remove the stigma in reaching out for help. I believe we were successful. We had several students engaging with staff at the Pantry and in learning more about the various resources available.
- GSS, SGA, and Faculty Senate have been working together on a shared governance – understanding our positions at UTK, how we can work together to advocate on issues we share and to come to agreement on those issues that may separate us. We are setting up meetings with the Provost and Chancellor to help determine where our positions are on campus and how we can be effectively represented bodies for our constituencies.

L. Meschke:

Thank you, George, for the GSS report. I am amazed at how many students have received travel awards in relation to research presentations. I wonder with the increased standing in research productivity at UT, are you also seeing an increase in demand in graduate student involvement in research?

G. Fields:

Compared to last year, yes. And, because in-person setting is back, and travel has opened up that translates into attending conferences. We did bolster our funds for the travel award this year with that expectation. We are on par to meet the demand that we anticipated. We have satisfied 2 of our 5 travel award cycles. The 3rd cycle will be in a couple weeks with the winter month. We are on par to spend the money we allocated for the Travel Awards.

Graduate Council Chair (Laurie Meschke)

As a reminder, all council members have the responsibility to report back to their respective units the information shared at the Graduate Council meetings. I would like to invite Jeanie Lim to share her process for informing the College of Education, Health, and Human Sciences of the proceeding of the Graduate Council.

J. Lim: I take the highlights of the Graduate Council Minutes and send to the department head and ask they send to the Director's of Graduate Studies. If there is information relevant to our college, I will make special note, like the deadline dates to submit for the Student Faculty Research Awards.

L. Meschke: Thank you, Jeanie. I can report that my department head has forwarded your summary to all the faculty in our department and so what you are sharing does have a perpetual effect and is beneficial.

Revision to the Bylaws. Stefanie will give an update.

S. Ohnesorg: The committee met, and we correlated the existing Bylaws with the Bylaws of the Faculty Senate, which also contains information about Graduate Council, to harmonize the language. We will notify the Faculty Senate that some of their language will need to change depending on our changes. You will have the opportunity to review the document to see the requested changes. The main changes are removing items that no longer exist and because so many has passed since the last update, there was some housekeeping edits. You will receive the document soon and then we can discuss the changes possibly at our February meeting.

L. Meschke: Thank you for your leadership and work on this project. I also want to thank the Executive Committee for stepping up and also working on this project in updating our Bylaws. And, my appreciation to Dixie Thompson for serving on this committee and providing the history of the Graduate Council.

Does anyone have any questions about the Bylaws?

I would like to share two items that were recently reviewed by the Faculty Senate (see <https://senate.utk.edu/faculty-senate-agendas-2022-2023/>)

- 1) Faculty Handbook, Chapter 4, Non-Tenure Track Faculty Appointments is undergoing extensive revisions to better promote equity, diversity, and inclusion. And, to promote greater respect and appreciation for the NTTF appointments. I believe this will be voted on at their March meeting.
- 2) Faculty Salaries for both NTTF and tenure-track. This is broken down by colleges and is informative as to where UT stands and where we may be coming up short and what the future holds.

Any items from the floor for consideration?

With no further comments or questions, may I have a motion to adjourn our meeting? Second? Thank you everyone for attending our meeting.

The meeting adjourned at 3:45 p.m.

Respectfully submitted,

Catherine Cox
Graduate Council Liaison

Attachment 1**REPORT OF THE ACADEMIC POLICY COMMITTEE MEETING****Thursday, November 10, 2022****3:45 – 5:00 p.m., Zoom Meeting**

Committee members present: Siris Laursen (Chair), George Fields (GSS President), Rodica Frimu, Melissa Hines, Elizabeth MacTavish (proxy for Adam Love), Mohammed Mohsin, Katherine Montgomery, and Allyson Neal.

Other attendees: Amy Cathey (HCB) David Cihak (CEHHS), Carl Collins, Dixie Thompson, and Catherine Cox (Graduate Council Liaison).

Agenda Items:

- 1. Credit Hour definition – joint proposal for both the undergraduate and graduate Academic Policy Committees to update credit hour definition**
- 2. Discussion of policy related to submission of official transcripts from all previous institutions**

Siris Laursen called the meeting to order at 3:45 p.m.

D. Thompson explained why the Credit Hour definition is on today's agenda.

1. Changes to Credit Hour Definition

The following proposal for UG and Graduate Councils' Academic Policy Committees comes from a committee charged with examining UT's definition of credit hour. The rationale for making this change is that our current definition of the credit hour focuses on traditional, in-person, classroom-based instruction. Updating the definition will provide the following improvements:

- Explicit guidance will be provided for online learning environments.
- Courses, regardless of delivery mode, will be expected to adhere to the same learner outcomes. In other words, a student who takes an online course at UT will be held to the same learning outcomes as a student who takes that UT course face-to-face.
- Explicit language will be provided about students actively engaging with the instructor and the course content.
- The policy is explicit in stating that the awarding of credit (i.e., course grades) will come only after the instructor has assessed a student's achievement of the learning objectives.

The proposed definition was drafted by a task force consisting of the following individuals:

Jennifer Hardy, Deputy Registrar
Robin Harris, College of Nursing
Sally Harris, Dept. of English
Heather Hartman, Associate Vice Provost and SACSCOC Liaison
Robert Hinde, Vice Provost for Academic Affairs
Jason Johnston, Online Learning & Academic Programs
Lee Murphy, Dept. of Nutrition
Beth Schussler, Dept. of Ecology & Evolutionary Biology
Carrie Stephens, Dept. of Agricultural Leadership, Education, & Communication
Dixie Thompson, Vice Provost and Dean of the Graduate School

Please refer to the Appendix of this document for additional information.

The proposal is that effective with the Fall 2023 semester, UT will revise the definition of the credit hour **from the current Credit Hour Definition:**

The unit of credit is the semester credit hour. One semester credit hour represents an amount of instruction that reasonably approximates both 50 minutes per week of classroom-based direct instruction and a minimum of two hours per week of student work outside the classroom over a fall or spring semester. Normally, each semester credit hour represents an amount of instruction that is equivalent to 700 minutes of classroom-based direct instruction. The amount of time that is required to earn one semester credit hour in a laboratory, fieldwork, studio, or seminar-based course varies with the nature of the subject and the aims of the course;

typically, a minimum of two or three hours of work in a laboratory, field, studio, or seminar-based setting is considered the equivalent of 50 minutes of classroom-based direct instruction. Semester credit hours earned in courses such as internships, research, theses, dissertation, etc. are based on outcome expectations established by the academic program.

To the following new Credit Hour Definition:

The unit of credit is the semester credit hour, or “credit” for the sake of brevity. The number of credits assigned to a course is determined by the faculty in the unit offering the course and is documented through the course approval process governed by the Undergraduate and/or Graduate Councils of the Faculty Senate. The awarding of credit indicates that through assessment of student learning, an instructor has determined that a student has demonstrated achievement of the learning objectives associated with a course.

For classes that are taught in-person in a traditional lecture-based format over the course of a semester with 14 weeks of instruction, one credit represents 50 minutes per week of direct faculty instruction in a face-to-face classroom setting and a minimum of 100 minutes per week, outside the classroom setting, during which a student engages actively with the course content. (This represents a minimum of 2.5 hours of student work per week, or 35 hours per semester.) This engagement may include reading course-related material, completing writing-based assignments, reviewing material presented in the classroom setting, completing projects and homework assignments, solving problems that support the learning objectives of the course, performing group work with other students enrolled in the course, reviewing and responding to instructor feedback, and/or similar activities.

For online, hybrid, and “flipped” classes, as well as other classes taught in modalities differing from traditional in-person lecture-based formats (whether synchronous, asynchronous, or a mix of the two), a credit represents a minimum of approximately 35 hours during which a student engages actively with the course instructor and the course content (which may include direct instruction, readings, assignments, projects, assessments, discussions, collaborative work with other students, and reviewing, responding to, and providing feedback). When a course is offered both in a traditional in-person lecture-based format and in another format or modality, the fundamental learning objectives for the course remain the same, independent of format or modality, and the different modalities represent substantially equivalent workloads and learning outcomes for students.

For in-person classes that include or consist of laboratory, studio, fieldwork, or similar components, two to three hours per week of these components, over the course of a semester with 14 weeks of instruction, typically equates to one credit. For courses that are primarily based on internships, practicum experiences, research, directed readings, independent study, or thesis or dissertation writing, the credits associated with the course are based on outcome expectations established by the faculty in the department, school, or college offering the course.

This definition of the credit hour provides the university with the flexibility to accommodate a variety of instructional formats and modalities.

This proposal is open for questions and discussion.

- With some questions and discussion, the committee was ready to vote.
- A poll was launched to vote – vote yes, no, or abstain to approve the change of the Credit Hour definition.

VOTE: unanimous vote of yes – to approve the change of the Credit Hour definition.

2. Discussion of policy related to submission of official transcripts from all previous institutions

D. Thompson

This proposal came forward last month as a discussion item. As a reminder, in January 2021, the Academic Policy Committee voted to provide an opportunity for academic units to ask for exceptions for students who could not provide us all their original transcripts. Leading up to that vote, APC had a couple of discussion meetings where data was reviewed from other universities benchmarking what our SEC peers and others were doing concerning official transcripts. The compromise APC reached in 2021, was to keep the policy as it is. But, for those units that do not need to review every transcript, we inserted an exception clause for them.

The College of Education, Health, and Human Sciences asked that we review this policy again for possibly any modifications.

Proposal for Changing Submission of All Transcripts

Currently UT requires that students report all post-high school academic activity. At the time of admission, the university will accept unofficial transcripts. The admission of the student is conditional until official transcripts have been submitted. The student is only able to register for one semester of classes under the status of 'conditional admission.' Some academic units wish to change this policy so that student only have to report and provide transcripts for those institutions from which they earned a bachelor's degree and all graduate courses that have been taken.

The current Graduate Catalog language (highlighted areas would need to be changed):

Application Steps for Admission

To apply for admission, the following materials must be submitted to Graduate Admissions through the online application submission process:

- The completed online Graduate Application for Admission.
- A non-refundable application fee paid by credit card or electronic check.
- One unofficial transcript from all colleges and universities attended submitted online at the time of application to the Graduate School. See Graduate Admissions website for more information.
- An applicant may be required to undergo English Certification for admission to the Graduate School by submitting results of the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). Official scores are required to be admitted to the Graduate School.
 - Minimum scores required for admission to the graduate School are
 - A total score of 80 on the internet-based TOEFL (iBT).
 - To register, contact Educational Testing Service (ETS). The ETS UT code is 1843.
 - A 6.5 overall band score on the IELTS.
 - To register contact IELTS.
 - The score will be considered valid if submitted within two (2) years of the test date.
 - An applicant may be exempted from the English Certification requirement if:
 - English is an official language in the applicant's country of citizenship, according to Countries With English as Official Language as published by the Graduate School
 - OR
 - English is the primary language of instruction at the institution in which the applicant received an undergraduate, graduate, or professional degree.
 - Some graduate programs may have more rigorous requirements. Applicants are responsible for meeting the requirements of the graduate programs when the standards exceed those of the Graduate School.
- Additional departmental/program supplemental materials may include but are not limited to:
 - Departmental supplemental application materials.
 - Reference letters or rating forms.
 - Scores from the Graduate Record Examination (GRE), (Educational Testing Service, the ETS UT code is 1843) or Graduate Management Admission Test (GMAT), (register for the GMAT as required by some programs).

After admission is offered, the following must be provided:

- Official transcripts and degree certificates (if separate from the transcript). See Graduate Admissions website for more information.
 - The Graduate School will reserve the right to revoke admission to a student if any unofficial or official documents are found to be fraudulent following review and comparison.
 - **Registration is prohibited after the first semester of enrollment until students have submitted the official copy of transcripts, including any degree certificates or degree confirmations, from all institutions previously attended.**
 - Under extenuating circumstances, academic units may petition the Dean of the Graduate School to waive the requirement that a student has to submit official transcripts from all institutions previously attended. This petition must include a rationale for the request, along with information about attempts to secure the official transcripts. These requests for exceptions must be submitted prior to the end of the student's first semester of enrollment.
- For those who have the Eligibility Verification for Entitlement Act (EVEA) requirement, documentation that proves U.S. citizenship or lawful presence as required by state law. For information on EVEA, visit the One Stop Student Services website.

All documents submitted become the property of the university and will not be returned.

Proposed Catalog language (see highlighted areas for changes):

Application Steps for Admission

To apply for admission, the following materials must be submitted to Graduate Admissions through the online application submission process:

- The completed online Graduate Application for Admission.
- A non-refundable application fee paid by credit card or electronic check.
- A transcript documenting that the applicant has been (or will be) awarded a bachelor's degree from an accredited institution. At the time of application, the transcript can be unofficial.
- A transcript from all accredited institutions where graduate (post-bachelor's) coursework has been taken. At the time of application, the transcript can be unofficial.
- An applicant may be required to undergo English Certification for admission to the Graduate School by submitting results of the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). Official scores are required to be admitted to the Graduate School.
 - Minimum scores required for admission to the graduate School are
 - A total score of 80 on the internet-based TOEFL (iBT).
 - To register, contact Educational Testing Service (ETS). The ETS UT code is 1843.
 - A 6.5 overall band score on the IELTS.
 - To register contact IELTS.
 - The score will be considered valid if submitted within two (2) years of the test date.
 - An applicant may be exempted from the English Certification requirement if:
 - English is an official language in the applicant's country of citizenship, according to Countries With English as Official Language as published by the Graduate School
 - OR
 - English is the primary language of instruction at the institution in which the applicant received an undergraduate, graduate, or professional degree.
 - Some graduate programs may have more rigorous requirements. Applicants are responsible for meeting the requirements of the graduate programs when the standards exceed those of the Graduate School.
- Additional departmental/program supplemental materials may include but are not limited to:
 - Departmental supplemental application materials.
 - Reference letters or rating forms.
 - Scores from the Graduate Record Examination (GRE), (Educational Testing Service, the ETS UT code is 1843) or Graduate Management Admission Test (GMAT), (register for the GMAT as required by some programs).

After admission is offered, the following must be provided:

- Official transcripts and degree certificates (if separate from the transcript). See Graduate Admissions website for more information.
 - The Graduate School will reserve the right to revoke admission to a student if any unofficial or official documents are found to be fraudulent following review and comparison.
 - For conditionally admitted students who have submitted only unofficial transcripts, registration is prohibited after the first semester of enrollment unless students have submitted an official transcript from the institution where a bachelor's degree was earned and official transcripts from all institutions where graduate coursework was completed.
- For those who have the Eligibility Verification for Entitlement Act (EVEA) requirement, documentation that proves U.S. citizenship or lawful presence as required by state law. For information on EVEA, visit the One Stop Student Services website.

All documents submitted become the property of the university and will not be returned.

This proposal is open for questions and discussion.

- With some questions and discussion and some slight edits; the committee was ready to vote.
- A poll was launched to vote – vote yes, no, or abstain to approve the change of submission of all transcripts.

VOTE: unanimous vote of yes – to approve the policy change of submission of all transcripts.

D. Thompson: I appreciate everyone's input today and the broad faculty input. At the next APC meeting we will discuss cleanup language in the catalog for admission of international students.

With a motion to adjourn, the meeting adjourned at 4:15.

Respectfully submitted,

Catherine Cox
Graduate Council Liaison

APPENDIX to Agenda of November 2022 APC Meeting

Changes to the Credit Hour Definition

What does it all mean?

Why is it important to change the definition of the credit hour from what it current is?

- The credit hour is the “currency” universities use to award credit for learning. Our accreditors and governmental agencies require that we publish and adhere to standards for a credit hour. UT’s current definition of a credit hour is tied to in-person, classroom-based, synchronous learning which is delivered across a traditional semester. We need to update our credit hour definition to capture the various modalities of delivery (online, asynchronous, etc.) that reflect the evolution of the teaching/learning environment.

What will change with this new definition?

- Explicit guidance will be provided for online learning environments.
- Courses, regardless of delivery mode, will be expected to adhere to the same learner outcomes. In other words, a student who takes an online course at UT will be held to the same learning outcomes as a student who takes that UT course face-to-face.
- Explicit language will be provided about students actively engaging with the instructor and the course content.
- For one credit hour in traditional in-person classes delivered during a 14-week semester, expected time engaged in learning outside the classroom will be 100 minutes for every 50 minutes engaged in face-to-face time with an instructor.
- The policy is explicit in stating that the awarding of credit (i.e., course grades) will come only after the instructor has determined the student’s achievement of the learning objectives.

When will these changes become effective?

- Fall 2023 is the effective date for these changes.

Who suggested these changes?

- The group that recommends these changes includes several faculty who have expertise in traditional face-to-face courses, laboratory instruction, and internships as well as online delivery of courses. The faculty and staff members who worked to craft this proposal are:

Jennifer Hardy, Deputy Registrar

Robin Harris, College of Nursing

Sally Harris, Dept. of English

Heather Hartman, Associate Vice Provost and SACSCOC Liaison

Robert Hinde, Vice Provost for Academic Affairs

Jason Johnston, Online Learning & Academic Programs

Lee Murphy, Dept. of Nutrition

Beth Schussler, Dept. of Ecology & Evolutionary Biology

Carrie Stephens, Dept. of Agricultural Leadership, Education, & Communication

Dixie Thompson, Vice Provost and Dean of the Graduate School

Where can I learn more about credit hour definitions?

- SACSCOC:
<https://sacscoc.org/app/uploads/2019/08/Credit-Hours.pdf>
- US Department of Education:
<https://www.ecfr.gov/current/title-34/subtitle-B/chapter-VI/part-600#600.2>

Attachment 2
Graduate Curriculum Committee Meeting Report
Zoom Meeting
Thursday, November 17, 2022

Members present: Avigail Sachs (Chair), Khalid Alshibli, Mehmet Aydeniz, Amy Cathey, Leighton Chappell (Graduate Student Senate), Moonhee Cho, Jennifer First, Sibyl Marshall, Paul Palies, Gary Uzonyi

Also in attendance: Graduate Council Chair-elect Phyllis Thompson; Bredesen Center, Philip Rack; Comparative and Experimental Medicine, David Anderson and Agricola Odoi; Herbert College of Agriculture, John Stier; Graduate School, Carl Collins and Catherine Cox

Avigail Sachs called the meeting to order at 3:30 p.m.

Curriculum proposals submitted for discussion:

1) Herbert College of Agriculture

Course changes: added 1 course, revised 2 courses, dropped 7 courses

Program changes:

- Add Minor – Animal Science Minor
- Program revisions

Proposals were discussed. Proposals came forward for a vote.

Course changes unanimous vote to approve. Program changes: 9 votes to approve, 1 vote to abstain

2) Bredesen Center for Interdisciplinary Research and Graduate Education

Course changes: Move the Life Sciences courses from the College of Arts and Sciences to the Bredesen Center.

Program changes: Move the Life Sciences Major (MS and PhD) from the College of Arts and Sciences to the Bredesen Center.

Proposals were discussed. Proposals came forward for a vote.

Course changes and program changes: Unanimous vote to approve

3) Intercollegiate Comparative and Experimental Medicine

Course changes: added 0 courses, revised 1 course, dropped 6 courses

Program changes: Drop concentration – Forensic Odontology for the Comparative and Experimental Medicine Major, MS

Proposals were discussed. Proposals came forward for a vote.

Course changes and program changes: Unanimous vote to approve

4) Courses Not Taught in 4 or More Years Report

There are 108 courses on the report.

39 courses marked to DROP

69 courses marked to RETAIN

- 39 courses: were marked to DROP (tan shading). ***Curriculum Committee voted to drop those courses.***
- 32 courses: (green shading) listed on the report for the first time. Justifications were given to retain the courses. ***Curriculum Committee voted to retain those courses.***
- 28 courses: (yellow shading) listed on the report for two consecutive years. Justifications were given to retain the courses. ***Curriculum Committee voted to retain those courses.***
- 9 courses: (no shading) listed on the report for three or more consecutive years. Justifications were given to retain.
Curriculum Committee reviewed and discussed each course and voted to retain those courses.

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

The meeting adjourned at 4:30 p.m.

Respectfully submitted,

Catherine Cox
Graduate Curriculum Coordinator

Thursday November 17, 2022 3:30 P.M.	Graduate Curriculum Committee Meeting	Zoom Meeting
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AGENDA

Herbert College of Agriculture

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

Intercollegiate: Comparative and Experimental Medicine

Courses Not Taught in 4 or More Years Report

+ Indicates new minor being added

❖ Indicates concentration being dropped

HERBERT COLLEGE OF AGRICULTURE

All Changes Effective Fall 2023

I. COURSE CHANGES**DEPARTMENT OF BIOSYSTEMS ENGINEERING AND SOIL SCIENCES****Biosystems Engineering Technology (BSET)**

DROP

BSET 514 CAD Applications to Biosystems Engineering Technology (3)**BSET 534 Production Monitoring and Automation (3)****BSET 574 Environmental Instrumentation and Monitoring (3)**

Rationale: For BSE514 and 534, we just failed to drop these graduate versions of undergraduate courses that were dropped several years ago. For 574, we are dropping this and adding an ESS 574 version (see below). Impact on other units: None. Financial impact: None. Projected enrollment: NA. Impact on enrollment in other HCA courses: none; courses have not been taught for some time.

Biosystems Engineering (BSE)**REVISE CREDIT HOURS AND CONTACT HOURS DISTRIBUTION****BSE 551 Electronic Systems (3)***Contact Hour Distribution: 2 hours and 1 lab. Design content – 1 hour.*

Formerly: BSE 551 Electronic Systems (4)

Contact Hour Distribution: 3 hours and 1 lab. Design content – 1 hour.

Rationale: Because we are now teaching the prerequisite, the undergraduate course on which this is based requires less time to teach the background material. Impact on other units: None.

Financial impact: Lowers teaching time and reduces credit hours in the department by about 2 per year. Most of the students are in the 400-level version of the course which will also have its credit hours reduced. Projected enrollment: NA. Impact on enrollment in other HCA Courses: NA

Construction Science and Agricultural Systems (CSAS) REVISED TO Construction Science & Management (CSM)

DROP

CSM 432 Agricultural and Construction Equipment (3)**CSM 435 Construction Finance / Accounting and Law (3)****CSM 452 Small Internal Combustion Engines (3)****CSM 462 Agricultural Chemical Application Technology (3)**

Rationale: These 400-level courses were moved to CSM in the UG Catalog two years ago, and the current ones were added to BSET at that time, but we never cleaned up these CSAS graduate listings. Impact on other units: None. Financial impact: None. Projected enrollment: NA. Impact on enrollment in other HCA Courses: none

Environmental and Soil Sciences (ESS)**ADD**

ESS 574 Environmental Instrumentation and Monitoring (3) Equipment and techniques commonly used to measure all aspects of hydrologic cycle: precipitation, runoff, streamflow, subsurface water movement. Sampling of all flows for contaminants. Design of monitoring systems. Analysis of data.

Credit Restriction: Students cannot receive credit for both ESS 474 and ESS 574.

Recommended Background: Hydrology.

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

Rationale: BSET 574 is being dropped as a BSET class and added as an ESS class, We were told that other programs would be more likely to use this as a Technical Elective under the ESS prefix than BSET. Impact on other units: None. Financial impact: hopefully increases student numbers. Projected enrollment: 10. Impact on enrollment in other HCA Courses: none; should not change HCA students taking it.

REVISE REGISTRATION RESTRICTION**ESS 561 Nexus of Food, Energy, and Water (3)**

Registration Restriction(s): Minimum student level – junior

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

Rationale: The material is rigorous, but should be accessible to interested juniors or seniors. Impact on other units: None. Financial impact: hopefully increases student numbers. Projected enrollment: 15. Impact on enrollment in other HCA Courses: none; should not change HCA students taking it.

II. PROGRAM CHANGES**DEPARTMENT OF ANIMAL SCIENCE****+ ADD MINOR****Animal Science**

In the 2023-2024 Graduate Catalog, add heading, text, and requirements for the Animal Science minor.

Campus Code

Knoxville Campus

Admissions Standards/Procedures

Graduate students who wish to increase their knowledge of animal science or integrate this interdisciplinary science with other fields of study may choose the Animal Science minor.

Academic Standards

The student must be in good academic standing with the Graduate School.

Credit Hours Required

6 graduate credit hours

Required Courses

6 graduate credit hours in ANSC courses 400-level or above but excluding ANSC 500, ANSC 502, ANSC 511, ANSC 525, ANSC 571, ANSC 600, ANSC 621, and ANSC 696.

Note: only those 400-level courses listed in the Graduate Catalog may be selected.

Non-Course Requirements

The student's committee must include a member of the faculty at the rank of Assistant Professor or above from the department who will be responsible for designating Animal Science courses required for the minor. Adjunct faculty are not eligible to fulfill this role.

Admission to Candidacy

When application is made for admission to candidacy, the minor and the courses required for the minor must be indicated.

Rationale: Graduate students in other graduate programs (e.g., Plant Science, Agriculture Leadership Education and Communication, Entomology and Plant Pathology, Biosystems Engineering and Soil Sciences and Agriculture Resources Economics and others) may benefit by increasing their knowledge of animal science and by integrating this interdisciplinary science with their primary field of study. Impact on other units: Provides additional course options for graduate students in Herbert College of Agriculture. Financial impact: None. All required courses already exist and will continue to be taught as part of the normal course load of existing faculty.

DEPARTMENT OF BIOSYSTEMS ENGINEERING AND SOIL SCIENCE**REVISE BIOSYSTEMS ENGINEERING MAJOR; MS – THESIS OPTION**

In the 2023-2024 Graduate Catalog, under the Academic Standards heading for the Thesis Option, revise wording for second bullet as follows:

Thesis Option

Required Courses

- BSE 519 and two other graduate courses in biosystems engineering technology (BSET), biosystems engineering (BSE), or closely related programs (9 credit hours)

Formerly:

BSE 519 and two other graduate courses in biosystems engineering technology (BSET) and biosystems engineering (BSE) (9 credit hours)

Rationale: until rebuild faculty offering graduate courses, need to make this broader. Impact on other units: None. Financial impact: None. Projected enrollment: NA. Impact on enrollment in other HCA Courses: none

REVISE BIOSYSTEMS ENGINEERING MAJOR; MS – PROJECT OPTION

In the 2023-2024 Graduate Catalog, under the Project Option heading, revise wording for first bullet as follows:

Project Option

- ESS 503 (3 times each for 1 credit hour), BSE 519 and two other graduate courses in biosystems engineering technology (BSET), biosystems engineering (BSE), or closely related programs (12 credit hours)

Formerly:

ESS 503 (3 times each for 1 credit hour), BSE 519 and two other graduate courses in biosystems engineering technology (BSET) and biosystems engineering (BSE) (12 credit hours)

Rationale: until rebuild faculty offering graduate courses, need to make this broader. Impact on other units: None. Financial impact: None. Projected enrollment: NA. Impact on enrollment in other HCA Courses: none

REVISE BIOSYSTEMS ENGINEERING MAJOR; PHD – ADMISSIONS STANDARDS / PROCEDURES

In the 2023-2024 Graduate Catalog, under the admissions heading, add the following as a second paragraph.

A PhD candidate progressing directly from a BS degree may be eligible for a Concurrent MS. Please see the BESS Graduate Student Handbook (<https://bess.tennessee.edu/graduate-student-handbook/>) for details.

Rationale: provide link for Concurrent MS option. Impact on other units: None. Financial impact: None. Projected enrollment: NA. Impact on enrollment in other HCA Courses: none

REVISE BIOSYSTEMS ENGINEERING MAJOR; PHD – ACADEMIC STANDARDS / REQUIRED COURSES

In the 2023-2024 Graduate Catalog, under the Required courses heading, revise the second bullet as follows:

BSE 519, BSE 619 and four other graduate courses in Biosystems Engineering (BSE) or closely related programs (18 credit hours)

Formerly:

BSE 519, BSE 619 and four other courses in Biosystems Engineering (BSE) (18 credit hours)

Rationale: until rebuild faculty offering graduate courses, need to make this broader. Also designating that the courses must be graduate courses. Impact on other units: None. Financial impact: None. Projected enrollment: NA. Impact on enrollment in other HCA Courses: none

**REVISE PLANT, SOIL, AND ENVIRONMENTAL SCIENCES MAJOR, ENVIRONMENTAL AND SOIL SCIENCES
CONCENTRATION, PHD – ADMISSION STANDARDS / PROCEDURES**

In the 2023-2024 Graduate Catalog, under Admissions Standards heading, add a 3rd main bullet as shown below:

A PhD candidate progressing directly from a BS degree may be eligible for a Concurrent MS. See the BESS Graduate Student Handbook (<https://bess.tennessee.edu/graduate-student-handbook/>) for details.

BREDESEN CENTER FOR INTERDISCIPLINARY RESEARCH AND GRADUATE EDUCATION

All Changes effective Fall 2023

MOVE OF ACADEMIC PROGRAM AND COURSES

This proposal is submitted to move the ownership of the graduate Major in Life Sciences (MS and PhD) from the College of Arts and Sciences (CAS) to the Bredesen Center for Interdisciplinary Research and Graduate Education (BC).

This policy decision has been formally agreed to by the leadership of CAS, the BC and the Provost's office.

Section I "Course Changes" below shows the request to move all the Life Sciences courses in the UT Graduate Catalog from CAS to migrate unchanged from CAS to the BC.

Section II below proposes the move of the Life Sciences Major (MS and PhD).

I. COURSE CHANGES

(LFSC) Life Sciences

MOVE THE LIFE SCIENCES COURSES FROM THE COLLEGE OF ARTS AND SCIENCES TO THE BREDESEN CENTER FOR INTERDISCIPLINARY RESEARCH AND GRADUATE EDUCATION

LFSC 500 Thesis (1-15) *Grading Restriction: P/NP only.*

Repeatability: May be repeated.

Credit Level Restriction: Graduate credit only.

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

LFSC 502 Registration/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.

Grading Restriction: Satisfactory/No Credit grading only.

Repeatability: May be repeated.

Credit Level Restriction: Graduate credit only.

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

LFSC 505 Research Rotation (2) Laboratory rotations with faculty member on clearly defined projects. Written proposal and oral report.

Repeatability: May be repeated. Maximum 8 hours.

LFSC 507 Programming for Biological Data Analysis (3) Topics to be covered include the application of computing, modeling, data analysis, and information technology to fundamental problems in the life sciences.

Repeatability: May be repeated. Maximum 12 hours.

LFSC 510 Special Topics in Life Sciences (1-3) Specializations in biotechnology; cellular, molecular, and developmental biology; environmental toxicology; ethology; plant, physiology and genetics; and physiology.

Repeatability: May be repeated. Maximum 9 hours.

LFSC 515 Introduction to Genome Science and Technology I (1) Introduction to research in genome science and technology concentration.

Grading Restriction: Satisfactory/No Credit grading only.

LFSC 517 Genomics and Bioinformatics (3)

Cross-listed: (See Microbiology 540.)

LFSC 520 Genome Science and Technology I (4) Overview of genomics, advanced genetics principles.

LFSC 521 Genome Science and Technology II (4) Analytical technologies and special techniques.

LFSC 541 Colloquium (1) Invited speakers. Topics announced in advance.

Grading Restriction: Satisfactory/No Credit grading only.

Repeatability: May be repeated. Maximum 12 hours.

LFSC 591 Foreign Study (1-15)

Repeatability: May be repeated. Maximum 15 hours.

LFSC 592 Off-Campus Study (1-15)

Repeatability: May be repeated. Maximum 15 hours.

LFSC 593 Independent Study (1-15)

Repeatability: May be repeated. Maximum 15 hours.

LFSC 595 Special Topics in Genome Science and Technology (1-3) Tutorials or lectures in variety of special topics to be chosen by instructor.

Repeatability: May be repeated. Maximum 12 hours.

LFSC 596 Special Topics in Genome Science and Technology (1-3) Tutorials or lectures in variety of special topics to be chosen by instructor.

Repeatability: May be repeated. Maximum 12 hours.

LFSC 600 Doctoral Research and Dissertation (3-15)

Grading Restriction: P/NP only.

Repeatability: May be repeated.

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

LFSC 615 Journal Club in Genome Science and Technology (1) Reading and discussion based on current literature.

Grading Restriction: Satisfactory/No Credit grading only.

Repeatability: May be repeated. Maximum 12 hours.

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

LFSC 695 Advanced Topics in Genome Science and Technology (1-3) Tutorials or lectures on variety of advanced topics to be chosen by instructor.

Repeatability: May be repeated. Maximum 12 hours.

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

LFSC 696 Advanced Topics in Genome Science and Technology (1-3) Tutorials or lectures on variety of advanced topics to be chosen by instructor.

Repeatability: May be repeated. Maximum 12 hours.

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

Rationale:

All courses listed above are to be moved/added to the Bredesen Center for Interdisciplinary Research and Graduate Education and removed/dropped from the College of Arts and Sciences. This is to align with the re-organization of the Life Sciences programs as a whole from under the administration of the College of Arts and Sciences to that of the Bredesen Center for Interdisciplinary Research and Graduate Education. The purpose of this move is to align all joint UTK and ORNL graduate programs under the administration of the University of Tennessee-Oak Ridge Innovation Institute.

Impact on staffing: The courses will continue to be taught by the faculty in the Genome Science and Technology graduate program, which offers the sole active concentration in the Life Sciences major.

Financial impact: The Bredesen Center operational cost will increase with the administrative responsibility of taking on this joint PhD program. The BC is working with Budget and Finance to propose a revised Bredesen Center budget for the transition of the LFSC program.

Impact on other academic units including those in other colleges:

Currently the Bredesen Center is listed as an "other academic unit" thus the tuition generated under LFSC will not flow back to the Bredesen Center but rather proportionately to all of the academic units. While the College of Arts and Sciences might lose some of the tuition revenue, the administrative costs will shift from them to the Bredesen Center. Historically, the Genome Science and Technology graduate students also serve as Graduate Teaching Assistants to help teach courses in the College of Arts and Sciences; the Bredesen Center has agreed in principle to continue to allow Genome Science and Technology students to participate in TA positions, which will largely be at the graduate advisor's

discretion (many of whom are Arts and Sciences faculty). The College of Arts and Sciences has offered to negotiate a continuation of the GTA agreement whereby GST graduate students will continue to fulfill teaching needs in the College.

Program learning outcomes: No changes.

Support from assessment activities: No changes.

Additional Documentation:

See copy of approved memo below signed by UT-ORII Education Director, CAS Associate Dean, and Provost recognizing agreement to this catalog revision. Confirmation of the CAS faculty vote regarding the move will be included in their catalog proposal.

August 16, 2022

Dear Dean Thompson,

This memo serves as an agreement in principle that the leadership in College of Arts and Sciences, the Bredesen Center and the University of Tennessee-Oak Ridge Innovation Institute (UT-ORII) have discussed and approve proposing changes to the Graduate Catalog for the Life Sciences programs, namely, the Life Sciences Degree programs (MS and PhD) and concentrations, as well as all Life Sciences courses listings. We propose moving these Life Sciences programs, which are currently managed under the College of Arts and Sciences, to the Intercollegiate Unit, Bredesen Center for Interdisciplinary Research and Graduate Education.

Of course, the final move will require faculty and administration approvals to the graduate catalog changes, which we will be proposing during the Academic 2022/23 year, but we have discussed and agree with moving forward with the catalog change request.

Thank you,
Dr. Philip Rack
UT-ORII Education Director

Dr. Chuck Collins
Executive Associate Dean
College of Arts & Sciences

Dr. John Zomchick
Provost & Senior Vice Chancellor

II. PROGRAM CHANGES

MOVE THE LIFE SCIENCES MAJORS (MS AND PHD) FROM THE COLLEGE OF ARTS AND SCIENCES TO THE BREDESEN CENTER FOR INTERDISCIPLINARY RESEARCH AND GRADUATE EDUCATION

In the 2023-24 Graduate Catalog, move the Life Sciences Major (MS and PhD) from the College of Arts and Sciences to the Bredesen Center for Interdisciplinary Research and Graduate Education.

Also, revise program description as shown below. The degrees offered, MS with Thesis and PhD, remain the same.

Life Sciences Major, MS

New Program Description: The program leading to the MS degree with a major in Life Sciences is intercollegiate. Faculty from two organizations Oak Ridge National Laboratory and the University of Tennessee, serve as advisers. The program is administered jointly. The concentration in Genome Science and Technology is housed in the UT-Oak Ridge Innovation Institute, while the concentration in Plant Physiology and Genetics is currently inactive.

Formerly: The program leading to the Master of Science degree with a major in life sciences is interdepartmental and intercollegiate and is designed to augment offerings of individual departments in two concentrations – genome science and technology, and plant physiology and genetics. Students interested in these areas should contact the director of the area of interest. Each concentration is administered separately and has unique admission requirements.

REVISE DESCRIPTION FOR THE GENOME SCIENCE AND TECHNOLOGY (GST) CONCENTRATION – MS

Genome Science and Technology, Thesis

Albrecht von Arnim, Biochemistry & Cellular and Molecular Biology, Director

New Program Description: The graduate program in Genome Science and Technology (GST) is a unique and multidisciplinary program for full time graduate study leading to the MS degree. The program trains students around the interface of the biological and computational sciences. Graduates typically pursue careers in biological science in academia, industry, or governmental organizations. The program is designed to take advantage of collaboration between the University of Tennessee, Knoxville, and the Oak Ridge National Laboratory. Students conduct research and develop a deeper understanding in emerging areas of life science, with emphasis on genomics, structural biology, proteomics, computational biology and bioinformatics, and bioanalytical technologies. Faculty with appointments in the University of Tennessee-Oak Ridge Innovation Institute teach GST courses and guide research projects for GST students.

Formerly: The University of Tennessee-Oak Ridge National Laboratory Graduate School of Genome Science and Technology (GST) is a unique and multidisciplinary program for full time graduate study leading to the Master of Science degree. The program trains students around the interface of the biological and computational sciences. Graduates typically pursue careers in biological science in academia, industry, or governmental organizations. The program is designed to take advantage of collaboration between the University of Tennessee, Knoxville, and the Oak Ridge National Laboratory. Students conduct research and develop a deeper understanding in emerging areas of life science, with emphasis on genomics, structural biology, proteomics, computational biology and bioinformatics, and bioanalytical technologies. Scientists from both campuses participate in teaching. Research projects pursued for the MS are guided by a faculty member from either campus.

DESCRIPTION FOR THE (MS) PLANT PHYSIOLOGY AND GENETICS CONCENTRATION REMAINS AS IS

REVISE DESCRIPTION FOR THE GENOME SCIENCE AND TECHNOLOGY (GST) CONCENTRATION – PHD

Life Sciences Major, PhD

New Program Description: The intercollegiate Life Sciences major leading to a Doctor of Philosophy degree is housed in the University of Tennessee-Oak Ridge Innovation Institute (UT-ORII). UT-ORII faculty, whether their primary appointment is at Oak Ridge National Laboratory or at UT, serve as advisors for these PhD students. There are two concentrations available within this major: Genome Science and Technology (GST) and Plant Physiology and Genetics.

Formerly: The program leading to the Doctor of Philosophy degree with a major in life sciences is interdepartmental and intercollegiate and is designed to augment offerings of individual departments in two concentrations – genome science and technology, and plant physiology and genetics. Students interested in these areas should contact the director of the area of interest. Each concentration is administered separately and has unique admission requirements.

Genome Science and Technology Concentration

Albrecht von Arnim, Biochemistry & Cellular and Molecular Biology, Director

The Genome Science and Technology (GST) concentration provides a unique and multidisciplinary opportunity for full-time graduate study leading to the Doctor of Philosophy degree. The program trains students around the interface of the biological and computational sciences. Graduates typically pursue careers in biological science in academia, industry, or governmental organizations. The program is designed to take advantage of collaboration between the University of Tennessee, Knoxville, and the Oak Ridge National Laboratory. Students conduct research and develop scientific creativity in emerging areas of life science, with emphasis on genomics, structural biology, proteomics, computational biology and bioinformatics, and bioanalytical technologies. Faculty with appointments in the University of Tennessee-Oak Ridge Innovation Institute teach GST courses and guide research projects for GST students.

Formerly: The University of Tennessee-Oak Ridge National Laboratory Graduate School of Genome Science and Technology (GST) is a unique and multidisciplinary program for full time graduate study leading to the Doctor of Philosophy degree. The program trains students around the interface of the biological and computational sciences. Graduates typically pursue careers in biological science in academia, industry, or governmental organizations. The program is designed to take advantage of collaboration between the University of Tennessee, Knoxville, and the Oak Ridge National Laboratory. Students conduct research and develop scientific creativity in emerging areas of life science, with emphasis on genomics, structural biology, proteomics, computational biology and bioinformatics, and bioanalytical technologies. Scientists from both campuses participate in teaching. Research projects pursued for either the MS or PhD are guided by a faculty member from either campus.

DESCRIPTION FOR THE (PHD) PLANT PHYSIOLOGY AND GENETICS CONCENTRATION REMAINS AS IS**BREDESEN CENTER FOR INTERDISCIPLINARY RESEARCH AND GRADUATE EDUCATION**

In the 2023-24 Graduate Catalog, revise the Bredesen Center for Interdisciplinary Research and Graduate Education unit page to show/include the Life Sciences Major for the MS and the PhD.

Majors, Degrees

Data Science & Engineering Major, PhD
Energy Science & Engineering Major, PhD
Life Sciences Major, MS
Life Sciences Major, PhD

The Bredesen Center for Interdisciplinary Research and Graduate Education offers three interdisciplinary PhDs, Energy Science and Engineering (ESE) and Data Science and Engineering (DSE), and Life Sciences (LFSC) focusing on many areas of energy science, applied data science, and life sciences. LFSC also offers the MS. These interdisciplinary degrees are offered collaboratively between the University of Tennessee and Oak Ridge National Laboratory under the oversight of the University of Tennessee-Oak Ridge Innovation Institute (UT-ORII).

The Bredesen Center brings together extensive and complementary resources at The University of Tennessee, Knoxville (UTK) and Oak Ridge National Laboratory (ORNL) to increase science, technology, engineering, computing, and mathematics academic and research activities of national significance focused in areas of energy, data, and life sciences and engineering.

For more information about these programs visit their websites:

<https://bredesencenter.utk.edu>
<https://gst.tennessee.edu>

Formerly:

The Bredesen Center for Interdisciplinary Research and Graduate Education offers two interdisciplinary PhDs, Energy Science and Engineering (ESE) and Data Science and Engineering (DSE), focusing on many areas of energy and applied data sciences. These interdisciplinary degrees provide breadth while preserving the depth and rigor of a PhD program.

The Bredesen Center brings together extensive and complementary resources at The University of Tennessee, Knoxville (UTK) and Oak Ridge National Laboratory (ORNL) to increase science, technology, engineering, computing, and mathematics academic and research activities of national significance focused on energy and data-related science and engineering.

The Bredesen Center offers the Doctor of Philosophy degree with a major in Energy Science and Engineering or a concentration in ESE for students who prefer pursuing doctoral studies through existing programs. Graduate students will join interdisciplinary research teams at ORNL and UTK, which will expose them to problem-oriented research and development and encourage them to approach research problems from new directions.

The Bredesen Center also offers the Doctor of Philosophy degree with a major in Data Science and Engineering. 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.

For more information about the Bredesen Center visit their website.

Rationale:

All of the above additions to unit, program, and concentration descriptions reflect a change in organization and administration of the Life Sciences programs from College of Arts and Sciences to Bredesen Center for Interdisciplinary Research and Graduate Education. The purpose of this move is to align all joint UTK and ORNL graduate programs under the administration of the University of Tennessee-Oak Ridge Innovation Institute.

Financial Impact: The Bredesen Center operational cost will increase with the administrative responsibility of taking on this joint PhD program and is working with Budget and Finance to propose a revised Bredesen Center budget for the transition of the LFSC program.

Impact on other academic units including those in other colleges:

Currently the Bredesen Center is listed as an "other academic unit" thus the tuition generated will not flow back to the Bredesen Center but rather proportionately to all of the academic units. While the College of Arts and Sciences might lose some of the tuition revenue, the administrative costs will shift from them to the Bredesen Center. Historically, the Genome Science and Technology graduate students also serve as Graduate Teaching Assistants to help teach courses in the College of Arts and Sciences; the Bredesen Center has agreed in principle to continue to allow Genome Science and Technology students to participate in TA positions, which will largely be at the graduate advisor's discretion (many of whom are Arts and Sciences faculty). The College of Arts and Sciences has offered to negotiate a continuation of the GTA agreement whereby GST graduate students will continue to fulfill teaching needs in the College.

Program learning outcomes: No changes.

Support from assessment activities: No changes.

Additional Documentation: See memo signed by UT-ORII Education Director, CAS Associate Dean, and Provost recognizing agreement to this catalog revision. Confirmation of the CAS faculty vote regarding the move will be included in their curriculum proposal.

INTERCOLLEGIATE COMPARATIVE AND EXPERIMENTAL MEDICINE (CEM)

All Changes Effective Fall 2023

I. COURSE CHANGES

(CEM) Comparative and Experimental Medicine

REVISE HOURS

CEM 602 GIS and Geographical Epidemiology (4)

Formerly: 3

Rationale: Changing the course credit from 3 to 4 is necessary because the amount of time students spend on practical hands-on laboratory exercises has increased since the course was developed. The expansion in the amount of time students spend on these exercises greatly enhances their learning and hence results in significant improvements in their skill set upon completion of the course. According to the registrar's rules, a 4-credit hour course must meet a minimum of 200 minutes per week. Dr. Odoi's 602 course is already meeting roughly 245 minutes per week. So, his meeting time is well above the required 200 minutes per week.

DROP

CEM 535 Capstone Experience (1-3)

CEM 550 Introduction to Forensic Odontology (3)

CEM 552 Head and Neck Anatomy (4)

CEM 554 Dental and Maxillofacial Anatomy/Histology (4)

CEM 556 Head and Neck Osteology and Trauma (4)

CEM 558 Laboratory Methods in Forensic Odontology (4)

Rationale: The forensic odontology MS concentration is being dropped, due to the program faculty member leaving the university, and his position was not refilled. The dropped courses are specific course related to the forensic odontology concentration. Now that the program is being discontinued, these courses do not serve a purpose in the regular MS/PhD curriculum. Therefore, they are unneeded.

II.. PROGRAM CHANGES

❖ DROP CONCENTRATION – COMPARATIVE AND EXPERIMENTAL MEDICINE, MS

Forensic Odontology concentration

In the 2023-2024 graduate catalog remove all reference to the forensic odontology MS concentration.

Rationale: The Forensic Odontology Concentration MS is being discontinued due to the concentration coordinator leaving the university for another position. These courses were housed in the Graduate School of Medicine, Knoxville campus. Due to the coordinator leaving the university, the space for these courses was not allocated back to us and a new coordinator was not hired to replace the previous one. The lack of space for the courses and no new coordinator hired to take this over, caused us to discontinue the program altogether. Currently, there are 0 students enrolled in the MS-FO masters concentration program. The last graduates with this concentration graduated Summer 2019.

Graduate Courses Not Taught in Four or More Years TO BE DROPPED FALL 2023

Note: If courses are cross-listed and the primary course is dropped, the secondary course(s) will also be dropped.

ACADEMIC DISCIPLINE	COURSE NUMBER AND TITLE	CROSS-LISTED COURSE	DROP EFFECTIVE FALL 2023		IF NO, DO NOT DROP COURSE WAS CHECKED IN PREVIOUS COLUMN, GIVE JUSTIFICATION FOR RETAINING	ON PREVIOUS LISTS	PRIOR RATIONALE(S)
			YES	NO			
HERBERT COLLEGE OF AGRICULTURE							
Agricultural Leadership, Education and Communications (ALEC)	524 Research Methodology			X	In discussion with Ag & Resource Economics (AREC) for ALEC 524 to be used by both majors. AREC has 10 students that need it in the spring as AREC is lacking an instructor. Sp 23: CRN w/0 enrollment		
Biosystems Engineering Technology (BSET)	501 Capstone Experience			X	A general course used for non-thesis MS-BSET students. All of our recent MS-BSET students have been Thesis, so it has not been used, but is likely to be used again.		
Environmental and Soil Sciences (ESS)	512 Pedology			X	This is fundamental material for some graduate-level soil scientists, and professors would have liked some of their students to take it. It has not been taught because we did not hire a true soil pedologist due to lack of research opportunities. The intention is to teach it again in F24. The ESS faculty are scheduled to meet to determine who and how that will be done more regularly.		
Food Science (FDSC)	616 Physical Properties of Foods		X				
Forestry, Wildlife and Fisheries (FWF)	525 Applied Natural Resource Statistics			X	Change in faculty appointment responsibility is occurring. Plans to teach course in AY 2023-24. Sp 23: CRN w/0 enrollment		
COLLEGE OF Architecture and Design							
Architecture (ARCH)	521 Principles of Architectural Form		X				

ACADEMIC DISCIPLINE	COURSE NUMBER AND TITLE	CROSS-LISTED COURSE	DROP EFFECTIVE FALL 2023		IF NO, DO NOT DROP COURSE WAS CHECKED IN PREVIOUS COLUMN, GIVE JUSTIFICATION FOR RETAINING	ON PREVIOUS LISTS	PRIOR RATIONALE(S)
			YES	NO			
Architecture (ARCH)	587 Advanced Architectural Design: Conservation		X				
Landscape Architecture (LAR)	585 Design Theory and Methods II		X			2021 Last taught Fall 2015	Hope to teach in Fall 2022 when additional faculty is hired
COLLEGE OF ARTS AND SCIENCES							
Anthropology (ANTH)	523 Anthropology of Genocide			X	Anthropology is in the process of hiring a new cultural anthropology faculty member, who would teach this course.	2021	
Anthropology (ANTH)	552 Peopling of the Americas		X			2021 Last taught Fall 2015	Course is taught every 3 years. It was last taught Fall 2018.
Anthropology (ANTH)	583 Skeletal Biology			X	Will be offered spring 2023. Spring 2023, 2 CRNs with 0 students registered	2021	We haven't had enough bio faculty to teach 583. Their responsibilities have primarily been teaching required undergrad courses with limited opportunity to teach grad courses. GR students have requested 583. We need to keep it on the books. Hopefully with the new faculty hire (recently posted position), we'll have enough faculty to offer 583 again soon.
Anthropology (ANTH)	586 Anthropological Genetics			X	Course will be taught Fall 2023. Sp 23, 1 CRN w/0 enrolled	2021 2020 Last taught fall 2014	Needs to stay in the catalog - for the same reason as ANTH 583 - but we anticipate 586 to be taught in Fall 2022 by Dr. Cabana. Anticipate course to be taught again in Fall 2022 to accommodate the needs of a new graduate cohort of anthropological geneticists under the advisership of the course instructor, Dr. Cabana. Anticipated to be taught again within the next few years by Dr. Cabana. Please retain this course for 2020.

ACADEMIC DISCIPLINE	COURSE NUMBER AND TITLE	CROSS-LISTED COURSE	DROP EFFECTIVE FALL 2023		IF NO, DO NOT DROP COURSE WAS CHECKED IN PREVIOUS COLUMN, GIVE JUSTIFICATION FOR RETAINING	ON PREVIOUS LISTS	PRIOR RATIONALE(S)
			YES	NO			
Chemistry (CHEM)	553 Spectroscopic Characterization of Organic Compounds			X	Course will be taught in spring 2024. Sp 23: 1 CRN with 0 enrolled		
Classics (CLAS)	573 Latin Paleography and Book Culture in the Middle Ages II			X	Companion course to undergraduate course sequence CLAS 472-473, offered in AY 25. Sp 23: 1 CRN with 0 enrolled		
Ecology and Evolutionary Biology (EEB)	547 Conceptual Foundations of Evolution and Behavior			X	Three new faculty in evolutionary behavior. Will teach in 2023-2024 cycle. Sp 23: 1 CRN with 0 enrolled		
Ecology and Evolutionary Biology (EEB)	581 Mathematical Biology I	Secondary course Primary course is: Mathematics 581 (MATH has 15 enrolled for fall)		X	This course running >30yrs. Cross-listed and rotates between Math and EEB faculty. EEB faculty taught several times and will do again (likely 2024-25 cycle) All EEB grad students in math ecology group need to take it.	2021	Course should be retained because it is cross-listed with Math 581, which many students in EEB have frequently and recently taken.
Ecology and Evolutionary Biology (EEB)	582 Mathematical Biology II	Secondary course Primary course is: MATH 582 (MATH has 0 enrolled for fall Sp 23, MATH has 12 enrolled)		X	This course running >30yrs. Cross-listed and rotates between Math and EEB faculty. EEB faculty taught several times and will do again (likely 2024-25 cycle). All EEB grad students in math ecology group need to take it. Sp 23, 1 CRN w/0 enrolled	2021 2020	Course should be retained because it is cross-listed with Math 582, which many students in EEB have frequently and recently taken. Course should be retained because it is cross-listed with Math 582, which many students in EEB have frequently and recently taken.
French (FREN)	570 French and Francophone Literature and Culture I			X	New hire in French/Francophone starting fall 2023. Course will be taught 23/24. Sp 23, 2 CRNs w/0 enrolled	2021 2020	FREN 570 will be offered in 2022-2023. 570 has not been offered in more than 4 years due to lack of staffing. Will be taught during the 2021-22 academic year.

ACADEMIC DISCIPLINE	COURSE NUMBER AND TITLE	CROSS-LISTED COURSE	DROP EFFECTIVE FALL 2023		IF NO, DO NOT DROP COURSE WAS CHECKED IN PREVIOUS COLUMN, GIVE JUSTIFICATION FOR RETAINING	ON PREVIOUS LISTS	PRIOR RATIONALE(S)
			YES	NO			
Geology (GEOL)	501 Fractal Models in Earth Sciences		X			2021 Last taught SP 2017	
Geology (GEOL)	505 Appalachian Tectonics		X			2021 Last taught Fall 2016	
Geology (GEOL)	551 Planetary Geomorphology			X	Course will be taught in Fall 2023.	2021 Last taught Fall 2016	Retain as we have new faculty hires that may be interested in teaching this course.
Geology (GEOL)	568 Geochemical Analysis			X	Course will be taught in Spring 2024 by a new faculty member.	2021 Last taught Fall 2016	Retain. We have a recent hire that is likely to teach this course.
Geology (GEOL)	584 Planetary Geodynamics			X	Course will be taught in Spring 23 by a new faculty member. Sp 23: 2 students enrolled	2021 Last taught SP 2017	Retain. We have a recent hire that is likely to teach this course.
German (GERM)	519 Bibliography and Methods of Research		X				
Mathematics (MATH)	513 Mathematical Principles of Fluid Mechanics I		X				
Mathematics (MATH)	534 Calculus of Variations			X	Will be offered Spring 23. Sp 23: 13 students enrolled		
Mathematics (MATH)	537 Mathematical Principles of Continuum Mechanics I			X	Will be offered Fall 2024	2021 Last taught Fall 2017	537-8 was merged in F2018 with 513-4, which ran in 17-18 with an enrollment of 13. The combined, new 537 is on a 2-yr rotation, and will be offered for the 1 st time in Fall 2022.

ACADEMIC DISCIPLINE	COURSE NUMBER AND TITLE	CROSS-LISTED COURSE	DROP EFFECTIVE FALL 2023		IF NO, DO NOT DROP COURSE WAS CHECKED IN PREVIOUS COLUMN, GIVE JUSTIFICATION FOR RETAINING	ON PREVIOUS LISTS	PRIOR RATIONALE(S)
			YES	NO			
Mathematics (MATH)	662 Modern Topology II			X	Will be offered Fall 2024	2021 Last taught SP 2017	Main 600-level sequence for Topology PhD students. 661 is on a two-year rotation, will be offered in F22, when a new faculty member in this area will join the dept. (search ongoing).
Physics (PHYS)	601 Atomic Physics		X				
Physics (PHYS)	602 Atomic Physics		X				
Psychology (PSYC)	511 Developmental Psychology		X				
Psychology (PSYC)	530 Psychology of Attitudes			X	Plan to offer AY 2023-24. Sp 23, 4 sections built with 0 students enrolled		
Psychology (PSYC)	547 Conceptual Foundations of Evolution and Behavior			X	Faculty who taught 547 retired. Another faculty member is interested, assuming we successfully hire new faculty to cover other courses. Would like to retain now and hope to offer in AY 2024-2025.		
Sociology (SOCI)	533 Philosophy of Social Science			X	Dr. Dahms plan to offer in summer 2023.	2021 Last taught SP 2017	Will be taught in Summer 2022 or 2023.
Sociology (SOCI)	541 Collective Behavior, Social Movements, Social Change			X	Dr. Shefner plans to offer for fall 2024.		
Sociology (SOCI)	633 Survey Design and Analysis			X	Important methods course but we've not been able to offer recently. Hope to offer again soon.		

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			YES	NO			
Spanish (SPAN)	531 From Latin to Spanish			X	Will be offered in fall 2023.		
Spanish (SPAN)	533 Cervantes and the Novel			X	Will be offered in spring 2024.		
Spanish (SPAN)	564 Latin American and Caribbean Cultural Studies: Processes of Emancipation			X	Will be offered in spring 2024.		
Theatre (THEA)	554 Advanced Drafting for the Theatre		X			2021 Last taught SP 2017	We have incorporated the content of this course into other graduate courses dealing with presentation of design work, but don't want to go so far as to drop the course due to concerns that it might affect NAST Accreditation in the short term.
HASLAM COLLEGE OF BUSINESS							
Business Administration (BUAD)	610 Teaching Preparation Seminar		X				
Business Analytics (BZAN)	610 Probability and Stochastic Processes	Primary course. Secondary course is: STAT 610 (STAT 610 has 0 enrolled for fall		X	Same as STAT 610. Business Analysis and Statistics Department revamped its PhD program in Fall 2021, creating four foundational theory classes that are taught on a rotating schedule. We have not offered BZAN/STAT 610 because we want to establish those courses and then determine how electives like BZAN/STAT 610 fit into the program. We believe we might offer BZAN/STAT 610 again in Spring 2024.	2021 2020 Last taught SP 2016	610 is a required course in our PhD program and will be taught in fall 2022. We are in the process of redesigning our PhD program, which has not admitted a student in the last 2 years. The new design is planned for launch in fall 2021, when we plan to welcome an incoming class of new PhD students. Current plan is that 610 will be offered in fall 2021, although I will probably be requesting updates to the name and/or description once our program is active.

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			YES	NO			
Statistics (STAT)	567 Survival Analysis			X	This course is required in a specialty graduate program in Tickle, and it is also of interest to other graduate groups of students at UT. It is offered on an as-needed basis. We are also working on a revamped online version of this course to make it more accessible to more students. Side note: this content was actually taught in Fall 2019, but it used the STAT 583 special topics number for some reason in that term. We will be sure to use the STAT 567 number going forward.		
Statistics (STAT)	610 Probability and Stochastic Processes	Secondary course. Primary course is: BZAN 610 (BZAN 610 has 0 enrolled for fall)		X	Same as BZAN 610 – BAS revamped its PhD program in Fall 2021, creating four foundational theory classes that are taught on a rotating schedule. We have not offered BZAN/STAT 610 because we want to establish those courses and then determine how electives like BZAN/STAT 610 fit into the program. We believe we might offer BZAN/STAT 610 again in Spring 2024.		
Statistics (STAT)	645 Machine Learning for Business Research			X	Course is on the spring 2023 schedule. No sections yet created for spring 2023.		
COLLEGE OF COMMUNICATION AND INFORMATION							
Communication and Information (CCI)	640 Advanced Communication and Information Research Methods			X			
Communication and Information (CCI)	653 Contemporary Issues in Law, Policy, and Ethics in Communication and Information			X		2021 No enrollment for SP 23	CCI has done due diligence and offered CCI 653 in spring 2021, but it did not make – due to a low enrollment. We intend to offer it again for spring 2023.
Information Sciences (INSC)	535 Advanced Information Retrieval			X		2021	Course description was revised fall 2021 and is listed on curriculum plan for future scheduling.

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			YES	NO			
Information Sciences (INSC)	546 Environmental Informatics		X			2021	Course description was revised fall 2021 and is listed on curriculum plan for future scheduling.
Information Sciences (INSC)	587 Mining the Web		X			2021	Course description was revised fall 2021 and is listed on curriculum plan for future scheduling.
Journalism and Electronic Media (JREM)	550 Writing and Editing Projects		X				
COLLEGE OF EDUCATION, HEALTH, AND HUMAN SCIENCES							
Child and Family Studies (CFS)	660 Advanced Observation Research Design and Methods		X				
Educational Administration (EDAM)	608 Development of and Current Issues in Educational Administration			X	Required class in the revised EdD in K-12 administration that has been submitted to CRC. Planning to offer in 2024.	2021 Last taught Fall 2013	The EdD program is in its second year of operation. 608 is one of the specialization courses in this new program. Will be offered in summer 2022.
Higher Education Administration (HEAM)	625 History and Philosophy of Higher Education		X				

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			YES	NO			
Instructional Technology (IT)	575 The Internet: Implications for Teaching and Learning			X	In process of revising the program, department will hang on to the course.	2021	We have two faculty positions unfilled in this subject area. Therefore, there is great uncertainty in program directions and the curriculum may shift as new faculty are hired. Thus, I would like to keep 575 for at least another year, until curricular adjustments settle out.
						2020	We have two faculty positions unfilled in this subject area. Therefore, there is great uncertainty in program directions and the curriculum may shift as new faculty are hired. Thus, I would like to keep 575 for at least another year, until curricular adjustments settle out.
						2019	We have two faculty positions unfilled in this subject area. Therefore, there is great uncertainty in program directions and the curriculum may shift as new faculty are hired. Thus, I would like to keep 575 for at least another year, until curricular adjustments settle out.
						Last taught SU 2015	We have two faculty positions unfilled in this subject area. Therefore, there is great uncertainty in program directions and the curriculum may shift as new faculty are hired. Thus, I would like to keep 575 for at least another year, until curricular adjustments settle out.
Public Health (PUBH)	542 Epidemiology II			X	Course is still taught. Spring 23 – 7 students enrolled		
Public Health (PUBH)	611 Leadership in Public Health		X				
Public Health (PUBH)	613 Public Health Ethics and Law		X				

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			YES	NO			
Public Health (PUBH)	636 Advanced Research Methods		X				
Public Health (PUBH)	637 Applications in Program Evaluation		X				
Cultural Studies in Education (CSE)	511 History of American Education			X	This is a required course for the social justice in education certificate. We are going to try to offer it at a different time during the academic year and publicize more to increase enrollment.		
Cultural Studies in Education (CSE)	639 Contemporary Philosophies in Education		X				
Education of the Deaf and Hard of Hearing (EDDE)	504 Clinical Experience in Teaching and Supervision of Exceptional Children			X	This is the field placement for those in the Ed Studies concentration for Deaf Ed. No students for a while but we need to keep it, as we still offer the concentration. Sp 23: 1 student enrolled	2021 Last taught FA 2016	We rarely have students in the Ed Studies Concentration with Deaf Education Specialization, but when we do (for those "adding on" licensure in Deaf Ed or for those on a non-licensure track), students will need this class.
Education of the Deaf and Hard of Hearing (EDDE)	602 Reading and Applying Research for Diverse Learners: Group and Correlational Approaches	Secondary course. Primary course is: Special Ed 602 (SPED 602, also on list, with no enrollment for fall)		X	Do not drop, current discussions in our department regarding revisions to PhD programs; if we revise, this course would be offered again.	2021 Last taught SP 2017	EDDE just received a new doctoral training grant so they will be bringing back 602 for that grant as early as Spring 2022.

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			YES	NO			
Education of the Deaf and Hard of Hearing (EDDE)	603 Reading and Applying Research for Diverse Learners: Single-Subject Approaches	Secondary course. Primary course is: Special Ed 603 (SPED 603, also on list, with no enrollment for fall)		X	Do not drop. Students are currently taking a course to replace this outside of our department (EDPY 515), but we need to keep EDDE 603, in case something happens with the EDPY course in the future (e.g., a few summers ago, we offered SPED 603 because the other department wouldn't allow it to be offered that summer).		
Education of the Deaf and Hard of Hearing (EDDE)	604 Reading and Applying Research for Diverse Learners: Meta-Analytic Methodology	Secondary course. Primary course is: Special Ed 604 (SPED 604, also on list, with no enrollment for fall)		X	EDDE/SPED 604 Part of the PhD program, will be offered in Fall 2023.		
Mathematics Education (MEDU)	550 Mathematics Assessment			X	One of the few courses specifically focused on mathematics education for doctoral and educational studies students. We are in the process of revamping our programs. MEDU 550 will become a core requirement. This should allow us to have high enough numbers to run the course soon.		
Mathematics Education (MEDU)	622 Research Trends in Mathematics Teacher Education			X	A core course required for doctoral students. We could not offer because we have not had numbers. We plan to offer 622 again in 2023-24.		
Science Education (SCED)	596 Curriculum Trends in Science Education			X	A core course required for doctoral students and educational studies students. We could not offer because we have not had numbers. We hope to offer 596 soon as our numbers across all programs pick up again.	2021 Last taught SU 2017	A core course required for doctoral students and educational studies students. We could not offer because we have not had numbers. We hope to offer 596 soon as our numbers across all programs pick up again.

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			YES	NO			
Science Education (SCED)	696 Research Trends in Science Education			X	A required doctoral seminar for science education students. Course is being offered in Spring 2023. SP 2023, 2 students enrolled	2021 Last taught SP 2017	A required doctoral seminar for science education students. Two of our current students will need this course next year.
Special Education (SPED)	602 Reading and Applying Research for Diverse Learners: Group and Correlational Approaches	Primary course. Secondary course: EDDE 602 (EDDE 602, also on list, with no enrollment for fall)		X	Do not drop. Current discussions in our department regarding revisions to PhD programs. If we revise, this course would be offered again.	2021 Last taught SP 2017	SPED currently has students enrolled in their program who need to take the course. Will be offered Fall 2022.
Special Education (SPED)	603 Reading and Applying Research for Diverse Learners: Single-Subject Approaches	Primary course. Secondary course: EDDE 603 (EDDE 603 has never been taught)		X	Do not drop. Students are currently taking a course to replace this outside of our department (EDPY 515), but we need to keep SPED 603 in case something happens with the EDPY course in the future (e.g., a few summers ago, we offered SPED 603 because the other department wouldn't allow it to be offered that summer).		
TICKLE COLLEGE OF ENGINEERING							
Civil Engineering (CE)	630 Constitutive Behavior of Geomaterials			X	We delay offering this course until there are enough graduate students to take it. Planned to be offered in Spring 2024		
Civil Engineering (CE)	671 Behavior of Bridges and Buildings			X			
Environmental Engineering (ENVE)	544 Advanced GIS Applications for Hydrology			X	We have identified an instructor and plan to offer in Spring 2024.	2021 Last taught SU 2016	We would like to wait one additional year to re-evaluate whether to keep 544. We have a faculty search on-going and this could be a course that the new faculty member would want to teach.

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			YES	NO			
Environmental Engineering (ENVE)	562 Three Dimensional Climate Modeling			X	We plan to teach this Fall 2023.	2021 2020 2019 Last taught SP 2015	We currently have a search for two ENVE faculty members. It is possible that one of them will have interest in teaching 562, and it would be a valuable course to offer our students. 562 remains strategically important to support potential system-level partnership with NOAA. If we cannot identify an adjunct, we will teach it internally. 562 is strategically important to support system-level partnership with NOAA. We are attempting to identify an adjunct to teach it in a forthcoming semester, aiming for Fall 2020.
Environmental Engineering (ENVE)	653 Pollutant Fate Modeling and Risk Assessment			X	To be offered in Summer 2023.	2021 Last taught FA 2015	We will offer this course Summer of 2022.
Environmental Engineering (ENVE)	655 Environmental Systems Biology			X	To be offered Spring 2024	2021 Last taught SP 2015	We will offer this course Summer of 2023.
Environmental Engineering (ENVE)	671 Advanced Concepts of Air Pollution Engineering			X	To be offered Spring 2024 Sp 23: 1 student enrolled	2021 2020 Last taught FA 2015	671 is strategically important to our air quality program in Environmental Engineering. He will teach it Spring of 2023. 671 is strategically important to our air quality program in Environmental Engineering and potential system-level partnership with NOAA. Course offering cycle has been delayed by Dr. Fu's 2019 Faculty Development Leave.

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			YES	NO			
Computer Science (COSC)	529 Autonomous Mobile Robots		X			2021 Last taught FA 2014	Course hasn't been taught due to faculty taking leaves and being assigned to other new courses required for the new graduate certificate and undergraduate minors in areas of machine learning and artificial intelligence. Dept will have new hires in this area that will take up the teaching in the near future. Hence, we'd like to keep this course in the catalog.
Computer Science (COSC)	557 Visualization			X	COSC 557 is a key course for data science. An online version of this course is currently being built. We are currently conducting a faculty search to recruit a primary instructor for this course. We plan to offer online and in-person sections of this course in fall 2023.	2021 2020 Last taught FA 2015	Data visualization is a key component of data science. 557 has also been included as a potential course offering in the online MS concentrations for computer science. We recently hired multiple new instructors to support these concentrations, and expect to offer COSC 557 in the next year. 557 will become an elective course for students interested in machine learning and data science. In the past, due to faculty shortage and enrollment, we were not able to offer it regularly. We have since rallied collaborators from ORNL and will advertise in the department to improve the enrollment.

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			YES	NO			
Electrical and Computer Engineering (ECE)	506 Real-time Digital Signal Processing		X			2021	Due to instructors being pulled to teach junior-level required courses, 506, as elective, hasn't been offered for a few years. However, since the department just hired a lecturer in F21 to help teach the required courses, we anticipate 506 to be offered in the AY22-23.
						2020	506 is an essential component of any ECE program, but we have not had sufficient instructors to offer it in recent years. With recent hires in this area, we intend to offer it in the next one or two years.
						2019 Last taught SP 2015	This is an important course for EE and CPE students with concentration in real-time systems. The previous instructor has not been able to teach it due to other teaching commitments. Recent faculty hires in CPE and EE will allow us to offer the course again in the near future.
Electrical and Computer Engineering (ECE)	611 Convex Optimization			X	ECE 611 is an essential course in control systems, communications, signal processing, machine learning, image processing and computer vision. We are having a faculty search to recruit a professor who will be the primary instructor of 611 and expect to offer it in the academic year 2023-2024.	2021 Last taught FA 2016	ECE 611 is an essential course in the areas of communications and signal processing. The primary instructor of 611 expects to offer it in the next academic year.
Electrical and Computer Engineering (ECE)	642 Wireless Communications			X	ECE 642 is an essential course in the areas of communications, signal processing, and wireless networks. We are having a faculty search to recruit a professor who will be the primary instructor of 642 and expect to offer it in the academic year 2023-2024.	2021 Last taught SP 2017	ECE 642 is an essential course in the areas of communications and signal processing. The primary instructor of 642 expects to offer it in the next academic year.
Electrical and Computer Engineering (ECE)	643 Learning and Decision Theory		X				

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			YES	NO			
Electrical and Computer Engineering (ECE)	653 Advanced Computer Networks		X				
Industrial Engineering (IE)	552 Advanced Linear Programming and Extensions			X	Course will support new research grant starting next year. (Spring 2024)		
Industrial Engineering (IE)	603 Advanced Design and Analysis of Experiments			X	This course aligns with interests of new faculty. (Fall 2023)		
Aerospace Engineering (AE)	522 Aerodynamics of Compressible Fluids			X	This is an elective for the new Hypersonics Graduate Certificate, including distance education campus. Dr. Acharya will teach this course Spring 2024.	2021 2020 Last taught SP 2016	Dr. Acharya would like to teach this course. Tentatively planned to have this course taught in AY 2022-2023. Our AE faculty is currently considering restructuring this course to better meet the needs of our students. Please do not drop.
Aerospace Engineering (AE)	542 Fluid Mechanics II	Secondary course. Primary course is: ME 542 (ME 542, also on list, with no enrollment for fall or spring)		X	Dr. Zhao was rescheduled to teach this class Fall 2023.	2021 Last taught SP 2015	Dr. Zhao will teach this class Fall 2022.
Aerospace Engineering (AE)	644 Theory of Turbulence	Secondary course. Primary course is: ME 644 (also on list with no enrollment)		X	The department needs to retain as many 600-level courses as possible. Dr. Acharya will revise this course title and teach this course Spring 2023. Sp 23: 2 CRNs, w/0 enrolled	2021 Last taught SP 2014	Dr. Acharya would like to teach 644 including compressible turbulence topics. Tentatively planned to have this course taught in AY 2022-2023.
Mechanical Engineering (ME)	542 Fluid Mechanics II			X	Dr. Zhao was rescheduled to teach this class Fall 2023.	2021 Last taught SP 2015	Dr. Zhao is teaching this class Fall 2022.
Mechanical Engineering (ME)	644 Theory of Turbulence	Primary course. Secondary course: AE 644, also appears on this report		X	Department needs to retain as many 600-level courses as possible. Dr. Acharya will revise course title and teach this course Sp 2023. Sp 23: 2 CRNs, w/0 enrolled	2021 Last taught SP 2014	Dr. Acharya would like to teach this course, including compressible turbulence topics. Tentatively planned to have this course taught in AY 2022-2023.

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			YES	NO			
Mechanical Engineering (ME)	647 Nonlinear Control Systems			X	Dr. Rucker is scheduled to teach ME 547 Sp 2023 and ME 647 will be taught in Spring 2024 to create a biannual two-course sequence. SP 23, ME 547 has 12 enrolled	2021 Last taught FA 2016	647 class will continue to be taught by Dr. Rucker. Tentatively planned to teach in AY 2022-2023.
Materials Science and Engineering (MSE)	532 Metallurgy of Deformation and Fracture		X			2021	Since course was last taught in spring 2017, there are quite a few retirements and new hires in the specialty related to this course. We are arranging to find out the appropriate faculty to teach this in AY 2022-2023
Materials Science and Engineering (MSE)	540 Basic Polymer Chemistry		X			2021 Last taught FA 2016	Previous responsible faculty left UT in 2017. The department is actively working on new hires and strategical planning in this area of studies (i.e., polymer science). It is now tentatively planned to teach in AY 2022-2023.
Materials Science and Engineering (MSE)	552 Laboratory Methods in Polymer Engineering		X			2021 Last taught FA 2016	Previous responsible faculty left UT in 2017. The department is actively working on new hires and strategical planning in this area of studies (i.e., polymer science). It is now tentatively planned to teach in AY 2022-2023.
Materials Science and Engineering (MSE)	567 Magnetism and Magnetic Materials			X	An important area under growth in MSE department. We have discussed with DH (Dr. Veerle Keppens) that our recently hired faculty are anticipated to teach it in the coming year. Sp 23: 1 CRN, w/0 enrolled		
Nuclear Engineering (NE)	533 Physical Security for High-Consequence Facilities			X	Course related to information and security, areas expected to grow in the future. We expect to teach this class within the next two years (Fall 2024 or Spring 2025).		
Nuclear Engineering (NE)	534 Physical Security Vulnerability Assessment			X	Course related to information and security, areas expected to grow in the future. We expect to teach this class within the next two years (Fall 2024 or Spring 2025).	2021 Last taught SP 2016	534 has been taught through state department funding, we are strategizing on how to teach this again and may search for a new faculty.

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			YES	NO			
Nuclear Engineering (NE)	536 Export Control and Nonproliferation			X	Course related to information and security, areas expected to grow in the future. We expect to teach this class within the next two years (Fall 2024 or Spring 2025).	2021 Last taught FA 2014	536 has been taught through state department funding, we are strategizing on how to teach this again and may search for a new faculty.
INTERCOLLEGIATE							
Comparative and Experimental Medicine (CEM)	531 Wildlife Medicine: Conservation and Policy	Primary course: Secondary course: Veterinary Med Pre-clinical (VMP) 875		X	Course is used for study abroad externships for dual CEM/DVM students to get credit during their vet portion. Due to COVID we have not had many, if any, dual students get student abroad opportunities. With international travel open, we plan to offer this course in the near future.		
COLLEGE OF LAW							
Law (LAW)	880 Behavioral Economics			X			
Law (LAW)	887 International Business Transactions			X		2021	We have been understaffed in business law and are currently searching for a new business law professor who may be interested in teaching this course. We would like to retain the course for another year in order to make that determination.
Law (LAW)	888 International Religious Freedom			X	The professor who teaches this course has been covering other courses in our curriculum because of staffing shortages. We would like to keep this course in the hopes that he will be able to teach it again soon.		

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			YES	NO			
Law (LAW)	910 Non-Profit Corporations		X			2021 Last taught fall 2015	We have been understaffed in business law and are currently searching for a new business law professor who may be interested in teaching this course. We would like to retain the course for another year in order to make that determination.
Law (LAW)	923 Complex Litigation			X	We offered 923 in Spring 2021, but it was cancelled based on insufficient student interest. Because of staffing shortages in spring 2023, we are not able to offer it this spring. But we plan to offer it in the 23-24 academic year if we are able to hire sufficient faculty to cover the class.	2021	We offered 923 in Spring 2021, but it was cancelled based on insufficient student interest at that time. But it is a class that we list on our master schedule as available in spring 2023 and we plan to teach it at that time.
Law (LAW)	944 Construction Law		X				

Guidelines:

TAN = courses department chose to DROP. Committee will note to DROP those courses.

GREEN = on the report for the first time and gave justification for retaining. Committee will vote to retain/keep courses.

YELLOW = on the report for a second time and gave justification for retaining. Committee will vote to retain courses.

NO SHADING: on the report 3 or more times, gave justification to retain. Need to review separately to determine if rationale is justified or if Curriculum Committee should vote to DROP the course.

NOTE: 400-level undergraduate courses (approved for graduate credit) listed on the Undergraduate Courses Not Taught in 4 or More Years List to be dropped, will also be dropped from the Graduate Catalog.

Course totals

- 108 courses on the report
- 39 courses marked to DROP
- 69 courses marked to RETAIN