Call to Order: Dr. Lara Dodds, Chair

Welcome and Introductions

Approval of minutes: February 23, 2018

Report from UCCC: Dr. Dana Franz

1. Modification of Ph.D. in Engineering/Engineering Education

Report from the Graduate School: Dr. Lori Bruce

Report from the Graduate Student Association: Holly Holladay

Old Business:

1. Report from Subcommittee on Policies and Procedures: Dr. Rebecca Robichaux-Davis

New Business:

1. Date for May Graduate Council meeting (re: changed commencement schedule)
Mississippi State University - Graduate Council

February 23, 2018

PRESENT: Amy Adkerson, Lori Bruce, Tim Chamblee, Francis Coleman (Bob Wolverton), Lara Dodds, Deborah Eakin, Donald Grebner, Larry Hanson, Richard Harkess, Holly Holladay, Dan Reynolds, Rebecca Robichaux-Davis, Susan Seal, Chien Yu

ABSENT: Ashli Brown-Johnson, Henk Arnoldus, Judy Bonner, Russell Carr, Joel Collier, Dana Franz, Brien Henry, Pricilla Hill, Julia Hodges, T.J. Jankun-Kelly, Beth Miller, Peter Ryan, David Shaw

REGULAR ATTENDERS: Brad Moreland, Chris Rousseau

GUEST: Shawn Mauldin, Tom Phillips, Brad Trinkle

I. The February 23, 2018 meeting of the Graduate Council of Mississippi State University was called to order by Chair Lara Dodds at 1:35 PM in Room 611 of Allen Hall.

II. Dodds asked for approval of the minutes from the January 26, 2018 meeting. Dan Reynolds moved to approve and Larry Hanson seconded. The motion carried unanimously.

III. Report from University Committee on Courses and Curricula (UCCC): Lara Dodds for Dana Franz

- **Modification – Masters of Public Accountancy (MPA) – Drs. Shawn Mauldin and Brad Trinkle**
  Lara Dodds asked to move forward the modification for Masters of Public Accountancy for discussion. Rebecca Robichaux-Davis moved it forward; Dan Reynolds seconded. The Mississippi State Board of Accountancy has changed the number of credit hours required to be able to sit for the CPA exam from 150 hours to 120 credit hour. They are also requiring that three (3) of those hours be in Municipal and Governmental Accounting. To prepare our undergraduate students for and make it possible for them to sit for the CPA exam in Mississippi after they have earned 120 credit hours, they are modifying the BACC to require ACC 4043, Municipal and Governmental Accounting and ACC 4023, Advanced Accounting. The change to the BACC necessitates that they will modify the MPA program accordingly.

  In addition, the accounting profession is increasing their focus on business/data analytics, subsequently increasing the learning outcome expectations of accounting graduates to include a working knowledge of business/data analytics. Therefore, they are increasing the coverage of business/data analytics in ACC 8033, Assurance and Audit Data Analysis and in ACC Fraud Examination and Data Analysis. They are also emphasizing the existence of the graduate minor in Data Analytics to their students. In discussion, it was noticed the business minor in Analytics was left out of the catalog in error. After discussion, Dodds asked for a motion to approve the modification; motion passed unanimously.

- **Modification – Masters of Taxation (MTA) – Drs. Shawn Mauldin and Brad Trinkle**
  Lara Dodds asked for a motion to move forward the modification for Masters of Taxation. Rebecca Robichaux-Davis moved the modification forward, Debra Eakin seconded. Lara stated this modification is parallel to the modification to the Masters of Professional Accountancy.
The changes include the following:
1. Delete focus areas and replace with 12 hours of approved electives for thesis track students and 15 hours of approved electives for non-thesis track students;
2. For non-thesis track students, delete the requirement that they take 6 hours of HS 7000 (Directed Individualized Study);
3. Change requirement that non-thesis students must take AIS 8703 to the option of taking AELC 8703 or AELC 8803;
4. Change all HS course prefixes in the curriculum to HDFS. (The change of all HS course prefixes to HDFS has already been approved by UCCC);
5. Change all AIS course prefixes in the curriculum to AELC. (The change of all AIS course prefixes to AELC has already been approved by UCCC);
6. Delete requirement that thesis track students take AIS 8503.

After discussion, Dodds asked for a motion to approve the modification to the Masters of Taxation; motion passed unanimously.

- Modification of the MS in Human Development and Family – Dr. Tom Phillips
Lara Dodds asked for a motion to move forward the modification of the MS in Human Development and Family. Rebecca Robichaux-Davis moved forward, Chien Yu seconded. It was stated that tweaks are being made to the coursework to help increase flexibility for the students and parallel changes are being made to both MS and PhD.

The proposed changes include the following:
1. Delete focus areas and replace with 15 hours approved electives;
2. Delete requirement that students take AIS 8523, as this course will no longer be taught;
3. Add requirement that students take 1 of 4 possible courses (HDFS 8123, AELC 8413, AELC 8503, AELC 8513) related to teaching and outreach;
4. Replace requirement that all students take AIS 8703 with requirement that students take 2 of 4 possible courses (AELC 8703, AELC 8803, EDF 9453, EDF 9643) related to research and evaluation;
5. Replace requirements that all students take EPY 8214, an additional unspecified statistics course, and EPY 9213 or AIS 9583 with requirement that students take EPY 8214 and 1 of 2 additional courses (EPY 9213 or AELC 9583) related to statistics and analysis;
6. Change all HS course prefixes in the curriculum to HDFS. (The change of all HS course prefixes to HDFS has already been approved by UCCC);
7. Change all AIS course prefixes in the curriculum to AELC. (The change of all AIS course prefixes to AELC has already been approved by UCCC).

In addition, it was noted there was a typo on page 5, under Proposed Degree Description, HDFS 8822 course name should be “Theories of HDFR.”

- Modification of the PhD in Human Development and Family – Dr. Tom Phillips
Dodds asked for a motion to bring forward the modification of the PhD in Human Development and Family. Rebecca Robichaux-Davis moved it forward, Don Grebner seconded.
After discussion, Dodds asked for a motion to approve the modifications of both MS and PhD in Human Development and Family Studies; motion passed unanimously.

IV. Report from the Graduate School: Dr. Lori Bruce
Dr. Bruce distributed and discussed her Dean’s Report highlighting the following:
- Dr. Bruce discussed the 2018 Graduate Enrollment Funnel and stated currently submitted applications overall are up 6%; Admissions (acceptances) are up 27%; and Enrolled we are down by -3%. Overall, we are currently up approximately 120 applications.
- Dr. Bruce announced to Council this will be her last Graduate Council meeting and that she has accepted the job as Provost at Tennessee Tech.

V. Report from the Graduate Student Association (GSA): Holly Holladay
- No Report

VI. Old Business:
1. Subcommittee on Graduate Catalog Policies and Procedures – Rebecca Robichaux-Davis
   - No report

VII. New Business:
1. Accelerated Program – BS/MS in Instructional Technology and Technology – Dr. Chien Yu
   Dodds asked for a motion to approve the Accelerated Program for the Bachelor of Science in Information Technology Services (ITS) and Master of Science in Instructional Technology (MSIT). Motion passed unanimously.

VIII. Dodds announced the next Graduate Council meeting will be April 6th. There being no further business, the meeting adjourned at 2:30 PM.
NOTE: This form is a cover sheet that must accompany the degree program change proposal. The actual proposal should be prepared in accordance with format requirements provided in the Guide and Format for Curriculum Proposals published by the UCCC. Both cover sheet and proposal should be submitted to UCCC Mail Stop 9702 (281 Garner Hall), Phone: 325-9410.

College: Bagley College of Engineering  Department: Dean of Engineering

Contact Person: J.W. Bruce  Mail Stop: 9571  E-mail: jwbruce@ece.msstate.edu

Nature of Change: Add Concentration  Date Initiated: 1/1/18  Effective Date: Fall 2018

Current Degree Program Name: Ph.D. in Engineering  Major: Engineering
Concentration: N/A

New Degree Program Name: Ph.D. in Engineering  Major: Engineering
Concentration: Engineering Education

Summary of Proposed Changes:

The Dean of Engineering in the Bagley College of Engineering proposes a new concentration in Engineering Education for the existing Ph.D. in Engineering. This new concentration will be offered along with the existing concentrations in Aerospace Engineering, Applied Physics, Biological Engineering, Chemical Engineering, Civil Engineering, and Mechanical Engineering.

The proposed concentration will create a interdisciplinary program by which students can pursue a Ph.D. in Engineering performing research into the emerging field of engineering education. Students will take courses in engineering, education, statistics, psychology, cognitive science and other subjects supporting research, discovery, and scholarship in engineering education.

Graduates of the proposed concentration will be able to conduct and direct research in engineering education, develop, review, and critique effective research designs, effectively teach engineering subjects, design and assess engineering programs, and address critical issues facing engineering education in the 21st century.

Upon approval, the proposed concentration in Engineering Education for the Ph.D. in Engineering will be the only degree of its type in the Southeastern Conference (SEC) and only one of nine nationwide.
Approved:

Department Head

Chair, College or School Curriculum Committee

Dean of College or School

Chair, University Committee on Courses and Curricula

Chair, Graduate Council (if applicable)

Chair, Deans Council

Date:

2/9/18

3/5/18

3/7/18
GRADUATE DEGREE MODIFICATION OUTLINE FORM

Use the chart below to make modifications to an existing Graduate Degree. All deleted courses and information should be shown in *italics* and all new courses and information in **bold**. Please include the course prefix, number, and title in both columns. Expand rows as needed.

<table>
<thead>
<tr>
<th>CURRENT Degree Description</th>
<th>PROPOSED Degree Description</th>
</tr>
</thead>
</table>
| **Degree:** Doctor of Philosophy  
**Major:** Engineering | **Degree:** Doctor of Philosophy  
**Major:** Engineering |
| **Concentrations:**  
Aerospace Engineering  
Applied Physics  
Biological Engineering  
Chemical Engineering  
Civil Engineering  
Mechanical Engineering | **Concentrations:**  
Aerospace Engineering  
Applied Physics  
Biological Engineering  
Chemical Engineering  
Civil Engineering  
**Engineering Education**  
Mechanical Engineering |
| [Click here and type new degree description] | [Click here and type new degree description] |
| Existing degree description is unchanged. |  |
| [Click here and type old concentration description] |  |

Existing concentrations (Aerospace Engineering, Applied Physics, Biological Engineering, Chemical Engineering, Civil Engineering, and Mechanical Engineering) descriptions are unchanged.

Dr. Kari Babski-Reeves  
Associate Dean for Research & Graduate Studies and  
160 McCain  
Box 9544  
Mississippi State, MS 39762  
Telephone: 662-325-2270  
Fax: 662-325-8573  
Graduate Coordinator: Dr. J.W. Bruce  
Simrall 335  
Box 9571  
Mississippi State, MS 39762-9571  
Telephone: 662-325-1530  
Fax: -662-325-2298  
E-mail: grad@ene.msstate.edu

An Interdisciplinary Curriculum – The Ph.D. in Engineering with concentration in Engineering Education (ENE) incorporates theory and practice so that its students are prepared to be teachers and scholars in the emerging field of engineering education. Engineering education incorporates theory with applied practice to prepare its graduates for a wide range of careers:

- Engineering policy
- Corporate training management
- Educational technology development
- University assessment
- University administration
• Academia
• Research and scholarship

Graduates of the doctoral program will be able to conduct and direct research in engineering education, develop, review, and critique effective research designs, effectively teach engineering subjects, design and assess engineering programs, and address critical issues facing engineering education.

The engineering education graduate program is interdisciplinary, with faculty drawn from the academic departments of the Bagley College of Engineering and the College of Education. Program of study and research leads to the Doctor of Philosophy in Engineering degree with concentration in Engineering Education, and is offered on the Starkville campus.

Admission Criteria – An applicant for admission to graduate study must hold a bachelor's degree from a fully recognized four-year educational institution that has unconditional accreditation with appropriate accreditation agencies. He/she must meet the admission requirements of the Graduate School and receive a positive recommendation by the Engineering Education Program Committee. Admission is based primarily on past performance, letters of recommendation, Graduate Record Examination (GRE) scores, and the applicant's demonstrated ability to be successful in the ENE Ph.D. program. Applicants with a bachelor's or master's degree from a program accredited by the Engineering Accreditation Commission (EAC) of ABET are preferred.

Regular admission to graduate study in the ENE Ph.D. program for students entering with only a Bachelor's degree requires a minimum grade point average (last four semesters of undergraduate work) of 3.50/4.00. Regular admission to graduate study in the ENE Ph.D. program for students entering with a Master's degree requires a minimum grade point average of 3.30/4.00 in the student's graduate work. When a student is deficient in one of the criteria cited, the student's application, nevertheless, may be considered for admission based on the strength of other materials contained in the student's application. However, reasonable minimum levels of performance must be achieved in both the applicant's GPA and GRE scores. International applicants not holding degrees from U.S. institutions must submit a Test of English as a Foreign Language (TOEFL) report of 575 PBT (84 iBT on the internet-based test) or an International English Language Testing Systems (IELTS) score of 7.0 or higher to be considered for admission.

Provisional Admission – An applicant who has not fully
met the GPA requirement stipulated by the University may be admitted on a provisional basis. The provisionally-admitted student is eligible for a change to regular status after receiving a 3.50 GPA on the first 9 hours of graduate courses at Mississippi State University (with no grade lower than a B). The first 9 hours of graduate courses must be within the student’s program of study. Courses with an S grade, transfer credits, or credits earned while in Unclassified status cannot be used to satisfy this requirement. If a 3.50 GPA is not attained on the first 9 hours of graduate courses, the provisional student shall be dismissed from the graduate program. While in the provisional status, a student is not eligible to hold a graduate assistantship. The minimum acceptable undergraduate grade point average for admission as a provisional student is 3.0/4.0 for the junior and senior years.

Contingent Admission – A student not possessing a B.S. or M.S. degree in an engineering or computer science discipline may be granted contingent admission, depending on qualifications and experience. A plan of action toward regular admission is formed by the ENE Graduate Coordinator and ENE Program Committee on a case-by-case basis. Typically, contingency is removed by completing undergraduate prerequisite courses in the first few terms after admission. Contingency admitted students must maintain at least a 3.50/4.00 GPA on all undergraduate prerequisite courses prescribed by their contingency plan of action. For more information, please contact the ENE Graduate Coordinator.

PROGRAM OF STUDY

The specific requirements for the Ph.D. in Engineering with concentration in Engineering Education degree are governed by the requirements of the Graduate School, the Bagley College of Engineering, and by the student’s graduate committee. The ENE PhD student’s graduate committee must include at least two Engineering Education faculty members, one College of Education faculty member, and one faculty member from their engineering discipline subject area. The graduate committee will ensure that the student’s program of study adequately addresses each of the three primary cross-disciplinary areas: engineering education, educational theory/cognitive science/psychology, and an engineering discipline area. The Engineering Education Graduate Coordinator must approve the composition of the graduate committee.

The Ph.D. program in Engineering with concentration in Engineering Education will contain at a minimum 48 hours of formal course work at the 6000-level or higher
(beyond the bachelor’s degree), and 20 hours of dissertation credit. At least 24 hours of course work should be at the full graduate level (8000-level or higher).

The program of study must demonstrate the student has achieved a working knowledge of

- engineering education theory and practice
- education theory, and
- an engineering discipline area

No program of study can contain more than six credit hours of Directed Individual Study courses. As part of their program of study, all ENE PhD students will be required to take

- ENE 8003 Foundations in Engineering Education
- ENE 8303 Pedagogy & Assessment in Engineering Education
- EDF 8363 Functions & Methods of Research in Education
- EDF 9373 Education Research Design

The Engineering Education Graduate Coordinator and the student’s graduate committee must approve the student’s program of study.

Credit from Previous Graduate Work – Students entering the PhD program in Engineering with concentration in Engineering Education with prior graduate course work may apply up to 24 hours toward their program of study. Prior graduate degree courses applied toward the ENE PhD program of study must be approved by the ENE Graduate Coordinator.

The Doctor of Philosophy in Engineering with concentration in Engineering Education, in addition to the coursework and research hours, includes an oral preliminary examination, a dissertation, and dissertation defense. Each candidate for the doctoral degree must conduct research and in their dissertation defense on that research demonstrate a mastery of the techniques of research and make a distinct contribution to the field of Engineering Education. The dissertation must conform to the rules of the Graduate School.

Students in the ENE PhD program are required to pass the oral comprehensive examination in accordance with the program requirements and all Graduate School policies. The student must have completed, or be within 6 hours of completing, their program of study coursework. The comprehensive exam consists of topics from the student’s completed program of study, a presentation of current research activities toward the student’s dissertation, and a detailed plan/proposal of
dissertation research to be done. Upon successful completion of the comprehensive exam and all coursework on the student’s program of study, the student advances to PhD candidacy.

PhD candidates are required to pass a public dissertation defense to graduate. The Graduate Catalog lists dissertation defense requirements. Additionally, PhD candidates must submit 2 journal papers from their dissertation prior to graduation. To receive the ENE Graduate Coordinator’s signature on the signature page, a PhD candidate must provide proof of two journal submission from the dissertation work; otherwise the PhD candidate will not be allowed to graduate. Journal paper submissions from work not a part of the dissertation, while strongly encouraged, cannot be used to satisfy this requirement.

Academic Performance – In addition to the criteria defined in the current Graduate Catalog, unsatisfactory performance in the PhD program in Engineering with concentration in Engineering Education is defined as any of the following:

- Failure to maintain a 3.50/4.00 or better GPA on all prerequisite undergraduate courses taken while in the ENE PhD program,
- Failure to maintain a 3.30/4.00 or better GPA on all graduate courses attempted,
- Failure to maintain a 3.30/4.00 or better GPA on all courses on the student’s program of study,
- Earning two or more grades of C in prerequisite undergraduate courses taken while in the ENE PhD program and courses listed on the student’s program of study,
- Earning a grade of U, D, or F in any course while enrolled in the ECE PhD program,
- Failure of the comprehensive exam,
- Failure of the preliminary exam, or
- Unsatisfactory evaluation of dissertation

Any one of the conditions above will constitute the basis for review for possible immediate dismissal from the program.

If the student’s GPA drops below the required average 3.30/4.00, the ENE Graduate Coordinator will review the record along with the student’s graduate committee and will recommend a final course of action, which will be immediate dismissal or the establishment of a probationary period in which corrective action must take place.

While on probation, the student is not eligible to receive an assistantship and is required to raise his/her
cumulative GPA to 3.30/4.00 or better by the end of the following semester of enrollment. Directed Individual Study courses are excluded.

In case of a dismissal from the graduate program, a student may appeal his/her academic dismissal in accordance with policy in the MSU Graduate Catalog.

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<tr>
<th>CURRENT CURRICULUM OUTLINE</th>
<th>Required Hours</th>
<th>PROPOSED CURRICULUM OUTLINE</th>
<th>Required Hours</th>
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<td>College Required Courses</td>
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<td>ENE 8003 Foundations in Engineering Education</td>
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<td>ENE 8303 Pedagogy &amp; Assessment in Engineering Education</td>
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<td>EDF 8363 Functions &amp; Methods of Research in Education</td>
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<td>EDF 9373 Education Research Design</td>
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<td>ST8114 Statistical Methods &amp; ST8253 Regression Analysis — or — IE6623 Engineering Statistics II &amp; ST8603 Applied Statistics</td>
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<td>select graduate courses in EDF and EPY</td>
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<td>other engineering graduate courses</td>
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<td>select graduate elective courses</td>
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<td>ENE 9000 dissertation credit</td>
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<td>Existing concentrations courses are unchanged.</td>
<td>Ph.D. (beyond baccalaureate) 68</td>
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</table>
3. JUSTIFICATION AND STUDENT LEARNING OUTCOMES

As engineering increasingly improves the global standard of living, security, and prosperity, demands are increasing for engineering colleges to produce more engineering graduates trained to meet the needs of business, government, industry, and the academy. Buoyed by the omnipresence of technology, communications, and computing, engineering practice and design worldwide has changed and engineering educators have had to re-evaluate how the engineer of tomorrow should be educated to develop students’ engineering thought processes and improve analytical and problem-solving skills. One thing is clear: engineering education practices of the last century are not capable of delivering the desired quality of engineer needed, nor in the quantities required.

Over the last several decades, the disparate engineering technical areas have come independently to the same conclusion – the field of engineering needs active discipline-based researchers performing scholarly, evidence-based discovery into innovation and best practices of engineering education, efficacy of current and future engineering education methods, dissemination of these discoveries, and a program to produce an adequate supply of scholar-researchers prepared to advance the body of knowledge in engineering education.

The Bagley College of Engineering (BCoE) has a long history as a national leader in engineering education, as evidenced by (i) its graduates and their successes, and (ii) its faculty and their engineering education research projects and publications. Furthermore, BCoE PhD graduates have clearly demonstrated success as engineering educators in their own right via productive and well-recognized careers in academe. As the next step to formalize the training, mentoring, and creation of engineering educators and researchers, the BCoE faculty have proposed this Engineering Education concentration for the PhD in Engineering degree. The proposed program will be the only one of its type in the Southeastern Conference (SEC), and the only one of nine such programs nationwide. The other scholarly, research-focused Engineering Education PhD degrees are offered at Arizona State University, Clemson University, Louisiana Tech, Ohio State University, Purdue University, Rensselaer Polytechnic Institute, Utah State University, and Virginia Tech. Engineering education researchers and faculty at many of these institutions are already engaged in research collaborations with BCoE faculty. These existing programs were examined to inform the proposed Engineering Education concentration at Mississippi State.

The proposed program will not result in any duplication within the IHL system. The proposed courses focus on research on practice, assessment, and evaluation of engineering education within the university setting.

By providing additional advanced opportunities to the diverse population of engineers already produced at Mississippi State University, the proposed Engineering Education concentration will inject highly qualified, diverse candidates into faculty and leadership in the colleges of engineering in universities regionally, nationally, and globally.

Graduates from the program will become more marketable as a result of the proposed Engineering Education concentration. They will have opportunities for career advancement in academic faculty positions, engineering educational assessment, research and leadership, engineering policy, corporate training management, and instructional technology development. Graduates will gain career mobility as the program prepares them to compete for high-ranking leadership opportunities in Mississippi, the Southeast, the US, and the world. Graduates will earn competitive salaries commensurate with PhD-level education.

The proposed Engineering Education concentration will produce graduates capable of world-class scholarly, evidence-based discovery and research into pedagogical practices of engineering education of the twenty-first century. Furthermore, the graduates will

- Advance global engineering innovations through their abilities to develop, conduct, and direct research in engineering education
• Create evaluative, instructional, and supportive frameworks for engineering education activities, including teaching, learning, assessment, research, and global dissemination
• Develop, implement, and actively demonstrate evidence-based approaches for best practice engineering education
• Establish authentic problems and activities emphasizing the application of scientific and technological principles in engineering classrooms, laboratories, and design environments

4. SUPPORT
Include are letters of support for the proposed concentration in Engineering Education for the PhD in Engineering from

• Engineering Education working group
• BCoE department heads
• BCoE Dean and Associate Dean
• Dean of the College of Education
• Department Head of the Department of Counseling, Educational Psychology & Foundations and the Department of Curriculum, Instruction and Special Education in the College of Education.
• Department Head of the Department of Mathematics and Statistics in the College of Arts & Sciences

5. PROPOSED ABBREVIATION
ENE

6. EFFECTIVE DATE
Fall 2018
December 7, 2017

TO: James W. Bagley College of Engineering Committee on Courses and Curricula & Mississippi State University University Committee on Courses and Curricula

FROM: Faculty Representatives, Engineering Education Working Group, Bagley College of Engineering

RE: Modification of Ph.D. in Engineering to Include Engineering Education Concentration

The Engineering Education Working Group (ENE-WG) faculty members have reviewed the application for the proposed modification of the Ph.D. in Engineering that adds an engineering education concentration. The faculty members of the ENE-WG unanimously approved the modification at a regular meeting held on 22 February 2017 with additional electronic review of this application 30 October 2017 through 3 November 2017.

We offer the full support of the proposed addition of an engineering education concentration to the Ph.D. in engineering.

Jean Mohammadi-Aragh, ENE-WG Chair
Seamus Freyne
Bryan A. Jones
Lesley Strawderman

JW Bruce
Priscilla Hill
Sarah Lee
Rani Sullivan
MEMO

TO:    James W. Bagley College of Engineering Committee on Courses and Curricula 
       Mississippi State University University Committee on Courses and Curricula

FROM:  Jason Keith, Dean of the Bagley College of Engineering

RE:     Ph.D. in Engineering – Engineering Education concentration

DATE:   February 7, 2018

We, the undersigned leadership in the James W. Bagley College of Engineering, have the reviewed the proposal for the new concentration in Engineering Education for the Ph.D. degree in Engineering and the associated new courses. We wholeheartedly support these proposals.

[Signature]
Jason Keith, Ph.D., Ernest W. and Mary Ann Deavenport, Jr. Chair 
Dean of Bagley College of Engineering

[Signature]
Kari Babski-Reeves, Associate Dean for Graduate Studies and Research 
Bagley College of Engineering
7 February 2018

TO: James W. Bagley College of Engineering Committee on Courses and Curricula
    Mississippi State University University Committee on Courses and Curricula

FROM: Academic Department Heads, James W. Bagley College of Engineering

RE: Ph.D. in Engineering – Engineering Education concentration

We have the reviewed the proposal for the new concentration in Engineering Education for the Ph.D.
degree in Engineering and the associated new courses. Our support for these proposals is given below.

<table>
<thead>
<tr>
<th>Support proposal</th>
<th>Do not support proposal</th>
</tr>
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<tbody>
<tr>
<td>✗</td>
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<tr>
<td>✗</td>
<td>Davy Bilk, Ph.D., Aerospace Engineering</td>
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<tr>
<td>✗</td>
<td>Jonathan Pote, Ph.D., Agricultural &amp; Biological Engineering</td>
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<tr>
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<td>Bill Elmore, Ph.D., Chemical Engineering</td>
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<td>Dennis Truax, Ph.D., P.E., Civil &amp; Environmental Engineering</td>
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<tr>
<td>✗</td>
<td>Ed. Swan, Ph.D., Computer Science &amp; Engineering</td>
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<td>✗</td>
<td>John Usher, Ph.D., P.E., Industrial &amp; Systems Engineering</td>
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<tr>
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<td>Pedro Mago, Ph.D., Mechanical Engineering</td>
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<tr>
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<td>Nicolas Younan, Ph.D., Electrical &amp; Computer Engineering</td>
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</tbody>
</table>
TO: James W. Bagley College of Engineering Committee on Courses and Curricula,
Mississippi State University Committee on Courses and Curricula

FROM: Mohsen Razzaghi
Department Head, Mathematics and Statistics

RE: Modification of Ph.D. in Engineering, Engineering Education Concentration

DATE: January 9, 2018

I have the reviewed the proposed modification of the Ph.D. in Engineering that adds
an engineering education concentration. The modification will require students in
the engineering education concentration to take 1-2 statistics courses offered by my
department. This requirement will not burden my department. I have no objection
to the proposed modification.

Mohsen Razzaghi, Ph.D.
Professor of Mathematics
Head, Department of Mathematics and Statistics
7 February 2018

TO:       James W. Bagley College of Engineering Committee on Courses and Curricula
          Mississippi State University Committee on Courses and Curricula
FROM:     Dean, College of Education
RE:       Modification of Ph.D. in Engineering, Engineering Education Concentration

Representatives from the Bagley College of Engineering have discussed their proposed modification of the Ph.D. in Engineering, which will add a concentration in engineering education. College of Education representatives have reviewed the proposed modification together with the proposed new courses. Our signatures below indicate our support for the proposal and the new courses.

Dr. Richard Blackbourn, Dean, College of Education
TO:  James W. Bagley College of Engineering Committee on Courses and Curricula  
Mississippi State University Committee on Courses and Curricula

FROM: Linda Cornelious
Professor and Interim Department Head

DATE: February 7, 2018

RE: Modification of Ph.D. in Engineering, Engineering Education Concentration

I have reviewed the proposed modification of the Ph.D. in Engineering that adds an engineering education concentration. The modification will require students enrolled in the concentration to take courses offered by our department. This requirement will not place a burden on my department. As such, I have no objection to the proposed modification.

Thank you for your consideration of this proposed modification of the Ph.D. in Engineering that adds an engineering education concentration.
7 February, 2018

TO: James W. Bagley College of Engineering Committee on Courses and Curricula  
Mississippi State University Committee on Courses and Curricula

FROM: David Morse, Head, Counseling, Educational Psychology, & Foundations

RE: Modification of Ph.D. in Engineering, Engineering Education Concentration

I have the reviewed the proposed modification of the Ph.D. in Engineering that adds an engineering education concentration. The modification will require students enrolled in the concentration to take courses offered by my department. This requirement will not burden my department. I have no objection to the proposed modification.

We wish you the best in opening up this new degree option.

David Morse  
Digitally signed by  
David Morse  
Date: 2018.02.07 15:54:02 -06'00'

David T. Morse  
Professor and Head  
Counseling, Educational Psychology, & Foundations

P.O. Box 9727, Mississippi State University, Mississippi State, MS 39762