MISSISSIPPI STATE UNIVERSITY™

UNIVERSITY COMMITTEE ON COURSES AND CURRICULA

A MEMORANDUM

DATE: February 6, 2018

TO: UCCC Members

FROM: Dr. Dana Pomykal Franz, Chair

SUBJECT: February 16, 2018 Meeting

Enclosed are the minutes from the meeting on January 19, 2018 and the agenda and proposals for the meeting on **Friday, February 16, 2018 beginning at 1:30 p.m.** The meeting will be held in the **Trotter Room (Room 2200) of the Center for Advanced Vehicular Systems in the Research Park**. Please contact the UCCC office if you are unable to attend.

Thank you.

Enclosures: January 19, 2018 Meeting Minutes
Course/Curriculum Proposals

Post Office Box 5268 • Starkville, MS 39762 • Office: (662) 325-9410 • Fax: (662) 325-1846

AGENDA
UNIVERSITY COMMITTEE ON COURSES AND CURRICULA
February 16, 2018

1. **Welcome**
2. **Approval of minutes**
3. **Course proposals by college/school:**

AGRICULTURE AND LIFE SCIENCES

+Distance	AELC 3203	Professional Writing in Agriculture, Natural Resources, and Human Sciences

ENGINEERING

Addition +Distance	GE 8003	Master of Engineering Capstone Course
Addition	PTE 1101	Introduction to Petroleum Engineering
Addition	PTE 4983	Petroleum Engineering Capstone Design

FOREST RESOURCES

Addition	NREC 4313	Spatial Technologies in Natural Resources Management
Addition	NREC 4573	Ecology of Managed Forests
Addition	WFA 4113/6113	Animal Behavior
Addition	WFA 8663	Movement Ecology

VETERINARY SCIENCE

Addition	CVM 5382	Cytology Elective

4. **Degree proposals by college/school**

AGRICULTURE AND LIFE SCIENCES

Modification	Minor	Gerontology (Tabled at Jan. 19, 2018 meeting)
Modification	MS	Human Development and Family Studies
Modification	Ph.D.	Human Development and Family Studies

ENGINEERING

Addition	Minor	Electrical Engineering
Modification	BS	Petroleum Engineering

University Committee on Courses and Curricula
Mississippi State University
January 19, 2018

Members Present:	Amy Adkerson, Shrinidhi Ambinakudige, Randy Campbell, Russell Carr, Cody Coyne, Amy Crumpton, Dana Franz, Seamus Freyne, Charles Freeman, Kevin Hunt, Brenda Kirkland, Pat Matthes, Rob Moore, Kelly Moser, Greg Olsen, Emily Owen, Prem Parajuli, Tommy Parker, Andy Perkins, Tommy Phillips, Wendy Roussin, Kathy Sherman-Morris, Brad Trinkle, Jenny Turner, Jeff Winger, Robert Wolverton, Chien Yu
Absent:	Ben Macklin, Erin McDevitt, Charles Provine
Excused:	Holly Holladay, Trey Howell, Barry Stewart, Erica Waldman
Proxy:	Kayla Pineda for Tracey Baham
Guests:	Stephanie King, Andrew Mercer, Lynda Moore, Dan Punday, Peter Ryan, Gregg Twietmeyer, Calvin Walker

Franz called the meeting to order at 1:30 p.m. on Wednesday, January 18, 2018 in room 324 of the Student Union. Franz introduced Dr. Peter Ryan, Associate Provost. Dr. Ryan thanked the committee members for their service on the committee, stressed the importance of the committee's work to insure quality curriculum for MSU students, and discussed the revisions to the UCCC workflow process and Course Inventory Management software forms. A committee member asked Dr. Ryan if part of the revisions to the workflow process would include colleges and schools handling more of the process without further UCCC review. Dr. Ryan replied that current course and program proposals will continue to flow through the UCCC.

The UCCC Office received one nomination for the UCCC Chairperson for 2018-2019, and the nomination was Dr. Dana Franz. Franz was unanimously reelected UCCC Chairperson for 2018-2019.

Franz announced UCCC member Holladay is promoting a graduate research symposium on February 17, 2018 and needs faculty members to serve as judges. The UCCC Office will be forwarding Holladay's information by email about how to volunteer as a judge.

Carr moved to approve the December 13, 2017 UCCC minutes. Hunt seconded the motion. A committee member was concerned there is not enough detail in the minutes about syllabi issues in the course proposals. Turner asked the committee member to email specific information that needs to be included in the minutes. Moser moved to pass the minutes contingent upon the committee member's concerns being addressed. Parajuli seconded the motion. The motion to approve the minutes contingent was approved unanimously.

Moore moved to approve the addition of distance education to MGT 3513 Introduction to Human Resource Management. Hunt seconded the motion. Committee members discussed whether the syllabus needs more detail about subject content and whether there should be more specificity about

the exams. The motion to approve the addition of distance education to MGT 3513 was approved unanimously.

Carr moved to approve the addition of ASE 4713/6713 Introduction to Unmanned Aircraft Systems and the inclusion of distance education to ASE 4713/6713. Olsen seconded the motion. Committee members pointed out the method of instruction on the proposal indicates the course will be a lecture/lab, but the course is a lecture. Franz indicated the UCCC Office can correct that information. Committee members discussed what credentials are needed for graduate level courses and suggested the course schedule should be included on the syllabus. The motion to approve the addition of ASE 4713/6713 and the inclusion of distance education to ASE 4713/6713 was approved unanimously.

Carr moved to approve the modification of the minor in Gerontology. Parajuli seconded the motion. Committee members had questions about whether this is a minor or a certificate since the proposal mentions both and why information about the graduate certificate was being added to the catalog description but no information about the graduate certificate is included in the proposal. A faculty member was not available to answer questions about the proposal. Moser moved to table the modification of the minor in Gerontology until more information could be obtained. Crumpton seconded the motion. The motion to table the modification of the minor in Gerontology was approved unanimously.

Carr moved to approve the modification of LA 1701 Landscape Career Paths Seminar. Parajuli seconded the motion. Committee members pointed out that the courses that use LA 1701 will need to be revised by technical changes if the course name for LA 1701 is included in the catalog descriptions. The motion to approve the modification of LA 1701 was approved unanimously.

Carr moved to approve the modification and inclusion of distance education to PE 3223 Motor Development and Movement. Parajuli seconded the motion. The subcommittee that reviewed the proposal pointed out the number of credit hours on the course proposal needs to be revised to 3 (instead of 0,3) since the course no longer includes a lab; the catalog description needs editing because there appears to be words missing from the description; and an attendance policy needs to be added to the syllabus. Perkins moved to pass the modification and inclusion of distance education to PE 3223 contingent upon the above concerns being addressed. Hunt seconded the motion. The motion to pass the modification and inclusion of distance education to PE 3223 was approved unanimously.

Carr moved to approve the additions of SS 3903 Ancient and Medieval Sport History, SS 4003 Philosophy of Sport & Physical Activity, and SS 8893 History and Philosophy of Sport Seminar. Perkins seconded the motion. Dr. Gregg Twietmeyer appeared in support of the proposals. The committee discussed whether letters of support from other departments were necessary since the new courses touched on the subjects of history, philosophy and the classics, and these courses would provide opportunities for cross listing with other departments. The subcommittee that reviewed the proposals made the following observations: for SO 3903 exams are 50% of the course grade but no detail is provided about how many exams will be given, the first sentence in the second paragraph under Justification needs to be edited or deleted, and My Courses is referred to as My Course; for SS 4003/6003, taking the grades out to two decimal places may be confusing; and it is not clear if an exam will be given after each unit or if the units will be grouped together for testing. The motion to approve the additions of SS 3903, SS 4003 and SS 8893 was approved unanimously. Franz indicated she would email the proposal initiator to inform him of the discussions and indicate the UCCC encouraged interdisciplinary opportunities with these courses.

Parajuli moved to approve the modification of the Ph.D. in Community College Leadership. Crumpton seconded the motion. Committee members pointed out the number of program credit hours on the cover/signature page is incorrect. Franz indicated that can be revised by the UCCC Office. The motion to approve the modification of the Ph.D. in Community College Leadership was unanimously approved.

Hunt moved to approve the modification and addition of distance education to EN 2203 Introduction to Literature. The subcommittee that reviewed the proposal discussed whether the assignments should be outlined in the syllabi for Campus 1 & Campus 5 and whether general education courses may be restricted but determined these were not issues. The subcommittee also pointed out there are typographical errors in the Campus 1 and Campus 5 Equivalency table for the content areas that need to be revised. Moser moved to pass the modification and addition of distance education to EN 2203 contingent on the typographical errors being revised. Parajuli seconded the motion. The motion to pass the modification and addition of distance education to EN 2203 contingent was approved unanimously.

Kirkland moved to approve the modification of GG 4063/6063 Earth and Atmospheric Energy Resources. Yu seconded the motion. The committee discussed how graduate students would be graded. The motion to approve the modification of GG 4063/6063 was approved unanimously.

Kirkland moved to approve the modification and addition of the general education designation for GR 1604 Weather and Climate and the addition of distance education for GR 4733/6733 Synoptic Meteorology. Parajuli seconded the motion. Subcommittee members who reviewed the proposals pointed out that GR 1603 is being revised to GR 1604, and a program proposal is needed to accompany the course proposal because the course is required in the program concentrations; the catalog description should be revised to indicate it is a two hour lab instead of a one hour lab; there is a lack of description about the lab assignments, and the lab is only 15% of the final grade and that may need to be reviewed. Hunt moved to pass the modification and addition of the general education designation for GR 1604 contingent upon the above concerns being addressed. The motion to pass GR 1604 contingent was unanimously approved. The committee then unanimously approved the addition of distance education for GR 4733/6733.

Moore, Director of the University Academic Advising Center, announced she is working with a committee to compile the GPA requirements for each department/major on campus to make the information available to students. Moore also gave an update on the Complete to Compete program.

Moser moved to adjourn. Hunt seconded the motion. The motion to adjourn was unanimously approved. The meeting was adjourned at 3:15 p.m.

APPROVAL FORM FOR

DEGREE PROGRAMS

MISSISSIPPI STATE UNIVERSITY

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: Ag & Life Sciences Department: School of Human Sciences

Contact Person: Joe D. Wilmoth Mail Stop: 9745 E-mail: joe.wilmoth@msstate.edu
Nature of Change: Minor Modification Date Initiated: 11/27/17 Effective Date: Fall 2018
Current Degree Program Name:

Major: Concentration:

Minor: Gerontology

New Degree Program Name:

Major: Concentration:

Summary of Proposed Changes:

This university-wide, multidisciplinary minor includes courses from multiple colleges and departments. The Gerontology Committee recommends changes in courses included in the minor to reflect what courses currently are offered on campus.
In addition, changes are recommended in the program description to clarify the distinction between the undergraduate minor and the graduate certificate.

Approved:	Date:
Michael C. Neuman Department Head	12-1-17
Jessica M. Grimes Chair, College or School Curriculum Committee	1.3.18
RH Dean of College or School	1/4/18
Chair, University Committee on Courses and Curricula	
Chair, Graduate Council (if applicable)	
Chair, Deans Council	

DEGREE MODIFICATION OUTLINE FORM

CURRENT Degree Description	PROPOSED Degree Description
Degree: Major: Concentration: Minor: Gerontology	Degree: Major: Concentration: Minor: Gerontology
The Gerontology Minor/Certificate provides students with current factual and theoretical data along with practical experience relating to the process of aging. It is a multidisciplinary effort with contributions from a variety of departments cutting across several colleges. Students completing the requirements will earn a minor/certificate in gerontology. This area of study is open to students from all colleges within the University. The Gerontology Minor/Certificate was developed to supplement the student's chosen major. Undergraduate students wishing to complete the Gerontology requirements will select a major in addition to electing 15 hours of gerontology course work.	The Gerontology Minor/Certificate provides students with current factual and theoretical data along with practical experience relating to the process of aging. It is a multidisciplinary effort with contributions from a variety of departments cutting across several colleges. Students completing the requirements will earn a minor/certificate in gerontology. This area of study is open to students from all colleges within the University. The Gerontology Minor/Certificate was developed to supplement the student's chosen major. Undergraduate students wishing to complete the undergraduate Gerontology **minor** requirements will select a major in addition to electing 15 hours of gerontology course work. **Students wishing to complete the graduate Gerontology certificate requirements will select a major in addition to electing a minimum of 13 hours of gerontology course work.**
"[Click here and type old concentration description]"	"[Click here and type new concentration description]"

CURRENT CURRICULUM OUTLINE	Required Hours	**PROPOSED CURRICULUM OUTLINE**	Required Hours
English (Ex: EN 1103 English Comp I):		English (Ex: EN 1103 English Comp I):	
Fine Arts (General Education):		Fine Arts (General Education):	
Natural Sciences (2 labs required from Gen Ed):		Natural Sciences (2 labs required from Gen Ed):	
Extra Science (if appropriate)		Extra Science (if appropriate)	
Math (General Education):		Math (General Education):	
Humanities (General Education):		Humanities (General Education):	
Social/Behavioral Sciences (Gen Ed):		Social/Behavioral Sciences (Gen Ed):	
Major Core Courses		Major Core Courses	
Concentration Courses		Concentration Courses	
Minor Courses		Minor Courses	

HDFS 4403 Introduction to Gerontology Choose at least three of the following: COE 4713 Issues in Aging EP 4123 Aging and Physical Activity EP 4143 Aging and Disability HDFS 4813 Adult Development: The Middle Years HDFS 4863 Consumer Aspects of Aging PSY 4983 Psychology of Aging SO 4413 Aging and Retirement in American Society *SO 4433 Sociology of Death and Dying* SW 3023 Human Behavior and the Social Environment II SW 4623 Social Work with the Aged Choose one of the following (may include courses from above): HDFS 3673 Environments for Special Needs HDFS 4333 Families, Legislation and Public Policy FNH 4353 Nutrition Throughout the Life Cycle SO 4423 Health and Society *SW 2323 Social Welfare Policy II* *DIS or Practicum in Aging*		HDFS 4403 Introduction to Gerontology Choose at least three of the following: COE 4713 Issues in Aging EP 4123 Aging and Physical Activity EP 4143 Aging and Disability HDFS 4813 Adult Development: The Middle Years HDFS 4863 Consumer Aspects of Aging PSY 4983 Psychology of Aging SO 4413 Aging and Retirement in American Society SW 3023 Human Behavior and the Social Environment II SW 4623 Social Work with the Aged **DIS (could be a Practicum in Aging)** Choose one of the following (may include courses from above): **FNH 3163 Basic Principles of Health Promotion** **FNH 3723 Community Nutrition** **FNH 4123 Nutrition and Chronic Disease** **FNH 4233 Medical Nutrition Therapy** **FNH 4353 Nutrition Throughout the Life Cycle** HDFS 3673 Environments for Special Needs HDFS 4333 Families, Legislation and Public Policy FNH 4353 Nutrition Throughout the Life Cycle **PSY 3813 Developmental Psychology** SO 4423 Health and Society **SW 3003 Populations at Risk** **SW 4633 Social Work in Health Care**	
Total Hours	15	Total Hours	15

3. JUSTIFICATION AND LEARNING OUTCOMES

Change 1: Degree description was reworded for clarification.

Change 2: SO 4433 Sociology of Death and Dying and SW 2323 Social Welfare Policy II have not been taught for several years. There courses were deleted.

Change 3: FNH 3163 Basic Principles of Health Promotion, FNH 3723 Community Nutrition, FNH 4123 Nutrition and Chronic Disease, FNH 4233 Medical Nutrition Therapy, FNH 4353 Nutrition Throughout the Life Cycle, PSY 3813, Developmental Psychology, SW 3003 Populations at Risk, and SW 4633 Social Work in Health Care were added to the curriculum. The Gerontology Committee agreed these courses would provide appropriate and beneficial options for students.

Change 4: A directed independent study, which could be a practicum, was moved to the core courses making up the minor. The Gerontology Committee agreed this change would strengthen the program for students.

Student learning outcomes include the following:

1. Students will gain knowledge of major theories and research findings related to human aging.
2. Students will gain practical experience related to the process of aging.
3. Students will gain a multidisciplinary perspective on aging.

4. SUPPORT

Letters of support from the Gerontology Committee chair and the School of Human Sciences Curriculum Committee chair are included with this proposal.

5. PROPOSED 4-LETTER ABBREVIATION

N/A

6. EFFECTIVE DATE

Fall 2018

MISSISSIPPI STATE UNIVERSITY

SCHOOL OF HUMAN SCIENCES
P. O. Box 9745
Mississippi State, MS 39762
P: 662.325.2950
humansci.msstate.edu

January 2, 2018

Ms. Jessica Graves
Chair, CALS Curriculum Committee
Box 9815
Mississippi State, MS 39762

Ms. Graves:

On behalf of the School of Human Sciences Curriculum Committee, I have reviewed the Gerontology Minor curriculum modification proposal, and we support its approval. This university-wide program provides a unique opportunity for students in a wide variety of academic programs, and the proposed changes will strengthen this program.

Sincerely,

Joe D. Wilmoth, Chair, SHS Curriculum Committee

MISSISSIPPI STATE UNIVERSITY

Department of Psychology
Magruder Hall
P.O. Box 6161
255 Lee Boulevard
Mississippi State, MS 39762
Phone: 662-325-3202
FAX: 662-325-7212

January 5, 2018
Ms. Jessica Graves
Chair, CALS Curriculum Committee
Box 9815
Mississippi State, MS 39762

Dear Ms. Graves:

I am writing this letter on behalf of the Gerontology Committee, which advises the university on the curriculum of the Gerontology Minor. I have reviewed the Gerontology Minor modification proposal with the committee, and we strongly support its approval. The university-wide Gerontology program provides instruction and research opportunities for students in academic programs throughout the university. The proposed changes will strengthen the program, and make it more compatible with newly established guidelines for Gerontology programs from the Association for Gerontology in Higher Education (AGHE).

Sincerely,

Associate Professor of Psychology
Chair, Mississippi State University Gerontology Committee

APPROVAL FORM FOR

DEGREE PROGRAMS

MISSISSIPPI STATE UNIVERSITY

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, along with all required copies, to UCCC, Garner Hall, Room 279, Mail Stop 9702.

College: Agriculture & Life Sciences Department: School of Human Sciences

Contact Person: Tommy M. Phillips Mail Stop: 9745 E-mail: tom.phillips@msstate.edu

Nature of Change: Modification Date Initiated: 08/17 Effective Date: Fall 2018

Degree to be offered at: Starkville (Campus 1)

Current Degree Program Name: Master of Science

Major: Human Development & Family Studies Concentration: N/A

New Degree Program Name: Master of Science

Major: Human Development and Family Science Concentration: N/A

Summary of Proposed Changes:

- 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.
- For non-thesis track students, delete the requirement that they take 6 hours of HS 7000 (Directed Individualized Study).
- Change requirement that non-thesis students must take AIS 8703 to the option of taking AELC 8703 or AELC 8803.
- Change all HS course prefixes in the curriculum to HDFS. (The change of all HS course prefixes to HDFS has already approved by UCCC.)
- 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.)
- Delete requirement that thesis track students take AIS 8503.

Approved:	*Date:*
Michael E. Newman Department Head	12-15-17
Chair, College or School Curriculum Committee	1.26.18
Dean of College or School	1-29-18
Chair, University Committee on Courses and Curricula	
Chair, Graduate Council (if applicable)	
Chair, Deans Council	

☐ IHL Action Required ☐ SACS Letter Sent

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.

CURRENT Degree Description	PROPOSED Degree Description
Degree: M.S. Major: Human Development & Family *Studies* Concentrations: N/A	Degree: M.S. Major: Human Development **and** Family **Science** Concentrations: N/A
Human Development and Family Studies (HDFS) Graduate Coordinator: Dr. Tommy Phillips 201B Lloyd Ricks Watson Building Box 9745 Mississippi State, MS 39762 Telephone: 662-325-0655 E-mail: tom.phillips@msstate.edu The School of Human Sciences offers both the Master of Science and the Doctor of Philosophy in Human Development and Family *Studies* (HDFS). Contact the Graduate Coordinator for more information regarding admission requirements and curriculum. Human Development and Family Studies is an interdisciplinary approach to the study of individual and family development in a variety of contexts across the lifespan, from conception to later life. *It encompasses specialty areas in infant and child studies, youth studies, family studies, family resource management, and gerontology.*	Human Development and Family Science (HDFS) Graduate Coordinator: Dr. Tommy Phillips 201B Lloyd Ricks Watson Building Box 9745 Mississippi State, MS 39762 Telephone: 662-325-0655 E-mail: tom.phillips@msstate.edu The School of Human Sciences offers both the Master of Science and the Doctor of Philosophy in Human Development and Family **Science** (HDFS). **Students in the M.S. program may select either the thesis or non-thesis option. Non-thesis students take a comprehensive oral exam in lieu of the thesis. Doctoral students must complete a research dissertation.** Contact the Graduate Coordinator for more information regarding admission requirements and curriculum. Human Development and Family Studies is an interdisciplinary approach to the study of individual and family development in a variety of contexts across the lifespan, from conception to later life.

CURRENT CURRICULUM OUTLINE	Required Hours	**PROPOSED CURRICULUM OUTLINE**	Required Hours
College Required Courses	N/A	College Required Courses	N/A
Major Required Courses:		Major Required Courses **(Thesis Option):**	
HDFS 8813 Seminar in HDFS	3	HDFS 8813 Seminar in HDFS	3
HDFS 8823 Advanced Theories of HDFR	3	HDFS 8823 Advanced Theories of HDFR	3
EPY 6214 Ed and Psyc Statistics	4	EPY 6214 Ed and Psyc Statistics	4
AELC 8503 Program Planning and Dev in AIS	3		
AELC 8803 Research Methods (Thesis Option) OR	3	**AELC 8803 Applying Research Methods to Agricultural and Extension Education**	3
AELC 8703 Eval of Ag and Ext Ed (Non-Thesis Option)		HDFS 8000 Research/Thesis	6
HDFS 8000 Research/Thesis (Thesis Option) OR	6	**12 hours of approved electives**	12
HDFS 7000 DIS (Non-Thesis Option)			

Focus Area Courses (Choose 9 hours from 1 area below)			9		
Infant & Child Focus					
HS	*8113*	*Trends in Infant & Child Development**			
HS	*6883*	*Risk, Resilience and Preventive Interventions*			
COE	*8913*	*Counseling Children*			
EDE	*9420*	*Research Practicum in ECE*			
EPY	*8293*	*Cognitive Development*			
HS	*6823*	*Development and Administration of Child Service Programs*			
EDX	*6423*	*Teaching the Disadvantaged Child*			
PSY	*6713*	*Language & Thought*			
EDX	*6353*	*Assistive Technology in Special Education*			
Youth Focus					
HS	*8313*	*Contemporary Youth Issues**			
HS	*6883*	*Risk, Resilience and Preventive Interventions*			
HS	*6873*	*Positive Youth Development*			
SO	*6233*	*Juvenile Delinquency*			
SO	*6333*	*Sociology of Sports*			
AIS	*6403*	*Development of Youth Programs*			
Family Focus					
HS	*8413*	*Issues in Family Studies**			
HS	*8423*	*Development of Intimate Relationships*			
COE	*8303*	*Family Counseling Theory*			
HS	*6313*	*Family Resource Management*			
HS	*6333*	*Families, Legislation, & Public Policy*			
HS	*6403*	*Introduction to Gerontology*			
HS	*6803*	*Parenting*			
HS	*6813*	*Adult Development: The Middle Years*			
HS	*6843*	*Family Interaction*			
HS	*6853*	*The Family: An Ecological Perspective*			
HS	*6883*	*Risk, Resilience and Preventive Interventions*			
SO	*6203*	*The Family in the United States*			
SO	*6223*	*Comparative Family Systems*			

Family Resource Management Focus					
HS	*6313*	*Family Resource Management**			
HS	*6333*	*Families, Legislation & Public Policy*			
HS	*6863*	*Consumer Aspects of Aging*			
HS	*6323*	*Consumer Issues and Policy*			
HS	*6683*	*Current Housing Problems of Families*			
Gerontology Focus					
HS	*6403*	*Intro to Gerontology**			
PSY	*6983*	*Psychology of Aging*			
HS	*6863*	*Consumer Aspects of Aging*			
SO	*6413*	*Aging and Retirement in American Society*			
COE	*6713*	*Issues in Aging*			
COE	*8813*	*Counseling Elderly Clients*			
SO	*6433*	*Sociology of Death and Dying*			
**Denotes required courses within focus areas.*					
				Total Hours **(Thesis option)**	31
				Major Required Courses **(Non-Thesis Option):**	
				HDFS 8813 Seminar in HDFS	3
				HDFS 8823 Advanced Theories of HDFR	3
				EPY 6214 Ed and Psyc Statistics	4
				AELC 8503 Program Planning and Development in Agricultural and Extension Education	3
				AELC 8803 Applying Research Methods to Agricultural and Extension Education **OR** **AELC 8703 Evaluation of Agricultural and Extension Education Programs**	3
				15 hours of approved electives	15
Total Hours		31		Total Hours **(Non-Thesis Option)**	31

3. JUSTIFICATION AND LEARNING OUTCOMES

Change 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.* Requiring students to declare specific focus areas and limiting them to specific courses approved for

their particular focus areas has presented frequent scheduling problems and necessitated equally-frequent course substitutions to ensure students meet their focus area requirements. Deleting focus areas and replacing them with electives approved by their major professors and committees will afford students greater scheduling flexibility, while decreasing scheduling conflicts and course substitutions.

Change 2: *For non-thesis track students, delete the requirement that they take 6 hours of HS 7000 (Directed Individualized Study).* The consensus among the members of the HDFS graduate faculty is that, in general, non-thesis students would benefit more from taking an additional two 3-hour courses related to their interests than taking 6 hours of directed individualized study. This change, however, would not prohibit non-thesis students from taking DIS hours in situations where they and their major professors feel that individualized study would be beneficial and appropriate.

Change 3: *Change requirement that non-thesis students must take AIS 8703 to the option of taking AELC 8703 or AELC 8803.* Because AELC 8703 is taught just one time each year, it presents frequent scheduling problems for non-thesis students. Deleting the requirement that non-thesis students only take AELC 8703 and allowing them to take either AELC 8703 (Evaluation of Ag and Ext Ed) or AELC 8803 (Applied Research Methods to AEE) would provide students with increased scheduling flexibility while still meeting the program's expectation that all graduate students take a course that addresses research and evaluation.

Change 4: *Change all HS course prefixes in the curriculum to HDFS.* The change of all HS course prefixes to HDFS has already approved by UCCC. The change now needs to be made in the official curriculum to reflect the changes to course prefixes.

Change 5: *Change all AIS course prefixes in the curriculum to AELC.* The change of all AIS course prefixes to AELC has already approved by UCCC. The change now needs to be made in the official curriculum to reflect the changes to course prefixes.

Change 6: *Delete requirement that thesis track students take AIS 8503.* AELC 8503 (Program Planning and Development in AELC) has a practitioner emphasis that, while appropriate for non-thesis HDFS master's students who are more likely to become practitioners, is less appropriate for HDFS master's students on the thesis track, as they are more likely to have academic/research interests and goals. Deleting the requirement that thesis students take AELC 8503 and allowing them to take an additional approved elective will provide them with more coursework in their areas of research interest.

Student learning outcomes remain unchanged by this proposal and include the following:

1. Students will gain knowledge of major theories and research findings related to Human Development & Family Science.
2. Students will gain knowledge of research/evaluation design methodology and statistical applications.
3. Students will demonstrate effective oral and written communication skills.

4. SUPPORT

A letter of support from the School of Human Sciences Curriculum Committee is included with this proposal.

5. PROPOSED 4-LETTER ABBREVIATION

HDFS

6. EFFECTIVE DATE

Fall 2018

MISSISSIPPI STATE UNIVERSITY

SCHOOL OF HUMAN SCIENCES
P. O. Box 9745
Mississippi State, MS 39762
P: 662.325.2950
humansci.msstate.edu

December 14, 2017

Ms. Jessica Graves
Chair, CALS Curriculum Committee
Box 9815
Mississippi State, MS 39762

Ms. Graves:

The School of Human Sciences Curriculum Committee has reviewed the proposal for modifications in the Master of Science in Human Development and Family Science, and we support its approval. The proposal brings the degree requirements into alignment with current course offerings and provides more flexibility for our students. We believe the proposed degree modification will benefit the master's students in our department.

Sincerely,

Joe D. Wilmoth, Chair

Alisha Hardman, Member

Julie Parker, Member

Brandan Wheeler, Member

APPROVAL FORM FOR

DEGREE PROGRAMS

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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, along with all required copies, to UCCC, Garner Hall, Room 279, Mail Stop 9702.

College: Agriculture & Life Sciences Department: School of Human Sciences

Contact Person: Tommy M. Phillips Mail Stop: 9745 E-mail: tom.phillips@msstate.edu

Nature of Change: Modification Date Initiated: 08/17 Effective Date: Fall 2018

Degree to be offered at: Starkville (Campus 1)

Current Degree Program Name: Doctor of Philosophy

Major: Human Development & Family Studies Concentration: N/A

New Degree Program Name: Doctor of Philosophy

Major: Human Development and Family Science Concentration: N/A

Summary of Proposed Changes:

- Delete focus areas and replace with 15 hours of approved electives.
- Delete requirement that students take AIS 8523, as this course will no longer be taught.
- Add requirement that students take 1 of 4 possible courses (HDFS 8123, AELC 8413, AELC 8503, AELC 8513) related to teaching and outreach.
- 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.
- 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 3 additional courses (EPY 9213, AELC 9583, SO 8233) related to statistics and analysis.
- 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.)
- 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.)

Approved: *Date:*

Michael E. Newman — 12-15-17
Department Head

Jesse M Hen — 1.26.18
Chair, College or School Curriculum Committee

Bill Nichols for GH — 1-29-18
Dean of College or School

Chair, University Committee on Courses and Curricula

Chair, Graduate Council (if applicable)

Chair, Deans Council

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.

CURRENT Degree Description	PROPOSED Degree Description
Degree: Ph.D. Major: Human Development & Family *Studies* Concentrations: N/A	Degree: Ph.D. Major: Human Development and Family **Science** Concentrations: N/A
Human Development and Family Studies (HDFS) Graduate Coordinator: Dr. Tommy Phillips 201B Lloyd Ricks Watson Building Box 9745 Mississippi State, MS 39762 Telephone: 662-325-0655 E-mail: tom.phillips@msstate.edu The School of Human Sciences offers both the Master of Science and the Doctor of Philosophy in Human Development and Family Studies (HDFS). Contact the Graduate Coordinator for more information regarding admission requirements and curriculum. Human Development and Family Studies is an interdisciplinary approach to the study of individual and family development in a variety of contexts across the lifespan, from conception to later life. *It encompasses specialty areas in infant and child studies, youth studies, family studies, family resource management, and gerontology.*	Human Development and Family Science (HDFS) Graduate Coordinator: Dr. Tommy Phillips 201B Lloyd Ricks Watson Building Box 9745 Mississippi State, MS 39762 Telephone: 662-325-0655 E-mail: tom.phillips@msstate.edu The School of Human Sciences offers both the Master of Science and the Doctor of Philosophy in Human Development and Family Science (HDFS). **Students in the M.S. program may select either the thesis or non-thesis option. Non-thesis students take a comprehensive oral exam in lieu of the thesis. Doctoral students must complete a research dissertation.** Contact the Graduate Coordinator for more information regarding admission requirements and curriculum. Human Development and Family Studies is an interdisciplinary approach to the study of individual and family development in a variety of contexts across the lifespan, from conception to later life.

CURRENT CURRICULUM OUTLINE	Required Hours	**PROPOSED CURRICULUM OUTLINE**	Required Hours
College Required Courses	N/A	College Required Courses	N/A
Major Required Courses:		**Core Required Courses:**	
EPY 8214 Advanced Ed & Psy Statistics	4	HDFS 8833 Foundations of HDFS	3
AIS 8703 Evaluation of Ag & Extension Education	3	HDFS 6843 Family Interaction	3
		HDFS 8853 Current Issues in HDFS	3
EPY 9213 Advanced Analysis OR	3	HDFS 9000 Research/Dissertation	20
AIS 9583 Analysis of Data in AEE Approved Statistics Course	3	**Teaching and Outreach**	
HS 8833 Foundations of HDFS	3		
AIS 8523 Teaching Out-of-School in AIS	3	**Select 1 of the following (3 hours):**	3
HS 6843 Family Interaction	3		
HS 8853 Current Issues in HDFS	3	**HDFS 8123 Effects of Poverty on Children And Families**	
HS 9000 Research/Dissertation	20	**AELC 8413 Methods of Planned Change**	
		AELC 8503 Program Planning and Dev.	

Focus Area Courses (Choose 15 hours from 1 area below)			15
Infant & Child Focus			
HS	*8113*	*Trends in Infant & Child Development**	
HS	*6883*	*Risk, Resilience and Preventive Interventions*	
COE	*8913*	*Counseling Children*	
EDE	*9420*	*Research Practicum in ECE*	
EPY	*8293*	*Cognitive Development*	
HS	*6823*	*Development and Administration of Child Service Programs*	
EDX	*6423*	*Teaching the Disadvantaged Child*	
PSY	*6713*	*Language & Thought*	
EDX	*6353*	*Assistive Technology in Special Education*	
Youth Focus			
HS	*8313*	*Contemporary Youth Issues**	
HS	*6883*	*Risk, Resilience and Preventive Interventions*	
HS	*6873*	*Positive Youth Development*	
SO	*6233*	*Juvenile Delinquency*	
SO	*6333*	*Sociology of Sports*	
AIS	*6403*	*Development of Youth Programs*	
Family Focus			
HS	*8413*	*Issues in Family Studies**	
HS	*8423*	*Development of Intimate Relationships*	
COE	*8303*	*Family Counseling Theory*	
HS	*6313*	*Family Resource Management*	
HS	*6333*	*Families, Legislation, & Public Policy*	
HS	*6403*	*Introduction to Gerontology*	
HS	*6803*	*Parenting*	
HS	*6813*	*Adult Development: The Middle Years*	
HS	*6843*	*Family Interaction*	
HS	*6853*	*The Family: An Ecological Perspective*	
HS	*6883*	*Risk, Resilience and Preventive Interventions*	
SO	*6203*	*The Family in the United States*	
SO	*6223*	*Comparative Family*	

AELC 8513 Volunteer Development AEE	
Research and Evaluation	
Select 2 of the following (6 hours):	6
AELC 8703 Evaluation of Ag & Ext. Ed. **AELC 8803 Research Methods** **EDF 9453 Intro Qual Research Education** **EDF 9463 Qual Data Collection Ed.**	
Statistics and Analysis	4
EPY 8214 Advanced Ed & Psy Statistics	
AND one (3 hours) of the following:	3
EPY 9213 Advanced Analysis **AELC 9583 Analysis of Data in AEE** **SO 8233 Qualitative Analysis**	
Approved Electives **With approval of major professor and graduate committee, select 5 courses (15 hours).**	15

		Systems			
Family Resource Management Focus					
HS	*6313*	*Family Resource Management**			
HS	*6333*	*Families, Legislation & Public Policy*			
HS	*6863*	*Consumer Aspects of Aging*			
HS	*6323*	*Consumer Issues and Policy*			
HS	*6683*	*Current Housing Problems of Families*			
Gerontology Focus					
HS	*6403*	*Intro to Gerontology**			
PSY	*6983*	*Psychology of Aging*			
HS	*6863*	*Consumer Aspects of Aging*			
SO	*6413*	*Aging and Retirement in American Society*			
COE	*6713*	*Issues in Aging*			
COE	*8813*	*Counseling Elderly Clients*			
SO	*6433*	*Sociology of Death and Dying*			
**Denotes required courses within focus areas.*					
Total Hours			60	Total Hours	60

3. JUSTIFICATION AND LEARNING OUTCOMES

Change 1: *Delete focus areas and replace with 15 hours of approved electives.* Requiring students to declare specific focus areas and limiting them to specific courses approved for their particular focus areas has presented frequent scheduling problems and necessitated equally-frequent course substitutions to ensure students meet their focus area requirements. Deleting focus areas and replacing them with electives approved by their major professors and committees will afford students greater scheduling flexibility, while decreasing scheduling conflicts and course substitutions.

Change 2: *Delete requirement that students take AIS 8523.* This course is no longer be offered by the School of Human Sciences.

Change 3: *Add requirement that students take 1 of 4 possible courses (HDFS 8123, AELC 8413, AELC 8503, AELC 8513) related to teaching and outreach.* HDFS doctoral students are expected to demonstrate proficiency in the application and dissemination of knowledge to a variety of audiences. In addition to teaching classes, one of the ways they did this in the past was through successful completion of AIS 8523, a course that is no longer offered. This proposed change will afford doctoral students flexibility in selecting from several possible courses that emphasize teaching and outreach.

Change 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.* This requested change will increase students' competencies in

the areas of research and evaluation while providing them with greater flexibility and more course options in these areas.

Change 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.* This requested change makes the statistics and analysis requirement more prescriptive and will eliminate problems associated with having an unspecified statistics course in the curriculum. The deletion of one statistics course in the curriculum is countered by the addition of a course related to research and evaluation.

Change 6: *Change all HS course prefixes in the curriculum to HDFS.* The change of all HS course prefixes to HDFS has already approved by UCCC. The change now needs to be made in the official curriculum to reflect the changes to course prefixes.

Change 7: *Change all AIS course prefixes in the curriculum to AELC.* The change of all AIS course prefixes to AELC has already approved by UCCC. The change now needs to be made in the official curriculum to reflect the changes to course prefixes.

Student learning outcomes remain unchanged by this proposal and include the following:

1. Students will demonstrate broad, advanced content knowledge related to Human Development & Family Studies.
2. Students will demonstrate proficiency in research design methodology and statistical applications.
3. Students will demonstrate effective oral and written communication skills.
4. Students will demonstrate proficiency in the application and dissemination of knowledge to a variety of audiences.

4. SUPPORT

A letter of support from the School of Human Sciences Curriculum Committee is included with this proposal.

5. PROPOSED 4-LETTER ABBREVIATION

HDFS

6. EFFECTIVE DATE

Fall 2018

MISSISSIPPI STATE UNIVERSITY

SCHOOL OF HUMAN SCIENCES
P. O. Box 9745
Mississippi State, MS 39762
P: 662.325.2950
humansci.msstate.edu

December 14, 2017

Ms. Jessica Graves
Chair, CALS Curriculum Committee
Box 9815
Mississippi State, MS 39762

Ms. Graves:

The School of Human Sciences Curriculum Committee has reviewed the proposal for modifications in the Doctor of Philosophy in Human Development and Family Science, and we support its approval. The proposal brings the degree requirements into alignment with current course offerings and provides more flexibility for our students. We believe the proposed degree modification will benefit the Ph.D. students in our department.

Sincerely,

Joe D. Wilmoth, Chair

Alisha Hardman, Member

Julie Parker, Member

Brandan Wheeler, Member

APPROVAL FORM FOR

DEGREE PROGRAMS

MISSISSIPPI STATE UNIVERSITY

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: Engineering **Department:** Electrical & Computer Engineering

Contact Person: JW BRUCE **Mail Stop:** 9571 **E-mail:** jwbruce@ece.msstate.edu
Nature of Change: add minor **Date Initiated:** 11/14/2027 **Effective Date:** Fall 2018

Current Degree Program Name: N/A

Major: **Concentration:**

New Degree Program Name: N/A

Major: **Concentration:**

Summary of Proposed Changes:

We propose to add an Electrical Engineering (EE) minor to be administered in the Department of Electrical & Computer Engineering. Upon approval by the UCCC, the EE minor will become an additional offering in the Department of Electrical & Computer Engineering in the Bagley College of Engineering. It will enable students enrolled in other disciplines at MSU to enhance their education by learning and applying fundamental concepts of electrical engineering. The proposed minor requires at least 16 hours to be composed of three required courses and two elective courses. All courses for the EE minor are currently taught by faculty in the Department of Electrical & Computer Engineering.

Approved: **Date:**

Nicolas Gomez — 12/15/17

Department Head

Chair, College or School Curriculum Committee — 1/30/18

Dean of College or School — 2/1/18

Chair, University Committee on Courses and Curricula

Chair, Graduate Council(if applicable)

Chair, Deans Council

PROPOSAL

Electrical Engineering Minor

Department of Electrical & Computer Engineering

Mississippi State University

November 2017

1. CATALOG DESCRIPTION

A minor in Electrical Engineering (EE) will prepare students for additional study or employment in electrical engineering fields. Students will become familiar with basic theory and techniques necessary for analyzing electrical and electronics systems and informing their design decisions involving electrical and electronics systems. Academic advising toward the EE minor is available from the ECE Undergraduate Program Coordinator located in 216 Simrall.

Students majoring in electrical engineering and computer engineering are not eligible.

A minimum of 16 hours must be taken to obtain the EE minor. All courses used to earn the EE minor must be taken at MSU. A grade of "C" or better must be earned in all courses for the EE minor. A minimum grade point average of 2.0/4.0 is required in all courses taken as a part of the EE minor.

For all eligible MSU majors, the EE minor consists of three required courses and two restricted elective courses. Note that some course choices may require other courses as prerequisites.

REQUIRED COURSES (10h)	credit hours
ECE 3413 Introduction to Electronic Circuits	3
ECE 3424 Intermediate Electronics Circuits	4
ECE 3443 Signals & Systems	3

RESTRICTED ELECTIVE COURSES (6-8h)	credit hours
Choose two of the following:	
ECE 3213 Solid-State Electronics	3
ECE 3313 Electromagnetics I	3
ECE 3323 Electromagnetics II	3

ECE 3434 Advanced Electronics Circuits	4
ECE 3614 Fundamentals of Energy Systems	4
ECE 4263 Principles of VLSI Design	3
ECE 4293 Nano-electronics	3
ECE 4313 Antennas	3
ECE 4323 Electromagnetic Compatibility	3
ECE 4333 RF & Microwave Engineering	3
ECE 4413 Digital Signal Processing	3
ECE 4433 Intro to Radar	3
ECE 4613 Power Transmission Systems	3
ECE 4633 Power Distribution Systems	3
ECE 4653 Intro to Power Electronics	3
ECE 4673 Fundamentals of HV Engineering	3
ECE 4813 Communications Theory	3
ECE 4913 Feedback Control Systems I	3
ECE 4923 Feedback Control Systems II	3
ECE 4933 State Space Design	3

2. CURRICULUM OUTLINE

PROPOSED New Degree
Degree: Minor **Major:** Electrical Engineering (EE) **Concentration:**
A minor in Electrical Engineering (EE) will prepare students for additional study or employment in electrical engineering fields. Students will become familiar with basic theory and techniques necessary for analyzing electrical and electronics systems and informing their design decisions involving electrical and electronics systems. Academic advising toward the EE minor is available from the ECE Undergraduate Program Coordinator located in 216 Simrall. Students majoring in electrical engineering and computer engineering are not eligible. A minimum of 16 hours must be taken to obtain the EE minor. All courses used to earn the EE minor must be taken at MSU. A grade of "C" or better must be earned in all courses for the EE minor. A minimum grade point average of 2.0/4.0 is required in all courses taken as a part of the EE minor. For all eligible MSU majors, the EE minor consists of three required courses and two restricted elective courses. Note that some course choices may require other courses as prerequisites.
[Click here and type new concentration description]

Proposed Curriculum Outline	**Required Hours**
Students will complete the following three required courses: • **ECE 3413 Intro to Electronic Circuits** • **ECE 3424 Intermediate Electronic Circuits** • **ECE 3443 Signals & Systems**	**10**
Students will select two of the following courses: • **ECE 3213 Solid-State Electronics** • **ECE 3313 Electromagnetics I** • **ECE 3323 Electromagnetics II** • **ECE 3434 Advanced Electronics Circuits** • **ECE 3614 Fundamentals of Energy Systems** • **ECE 4263 Principles of VLSI Design** • **ECE 4293 Nano-electronics** • **ECE 4313 Antennas**	**6**

• **ECE 4323 Electromagnetic Compatibility** • **ECE 4333 RF & Microwave Engineering** • **ECE 4413 Digital Signal Processing** • **ECE 4433 Intro to Radar** • **ECE 4613 Power Transmission Systems** • **ECE 4633 Power Distribution Systems** • **ECE 4653 Intro to Power Electronics** • **ECE 4673 Fundamentals of HV Engineering** • **ECE 4813 Communications Theory** • **ECE 4913 Feedback Control Systems I** • **ECE 4923 Feedback Control Systems II** • **ECE 4933 State Space Design**	
Total Hours (minimum)	**16**

The courses listed above that satisfy the requirements of the EE minor are already being taught in support of the degrees in electrical engineering, computer engineering, and other programs in the Bagley College of Engineering. As a result of the new minor in electrical engineering, the Department of Electrical & Computer Engineering will add no new courses, and no additional faculty will be needed.

3. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Students completing the minor in electrical engineering will be able to

- apply the concepts of electricity, circuit analysis, basic electronics, and signal theory to analyze the response of systems
- evaluate competing electrical, electronic, and signal processing solutions to determine the most desirable approach
- understand and articulate the issues surrounding electrical, electronic, and signal components within the larger engineered design

4. SUPPORT

A letter of support from the Department of Electrical & Computer Engineering Undergraduate Committee is included with this proposal.
A letter of support from the academic heads of the departments within the Bagley College of Engineering is included with this proposal.

5. EFFECTIVE DATE

Fall 2018

JAMES WORTH
BAGLEY
COLLEGE OF ENGINEERING
MISSISSIPPI STATE UNIVERSITY
ELECTRICAL & COMPUTER ENGINEERING
Box 9571
Mississippi State, MS 39762
Tel: (662) 325-3912 Fax: (662) 325-2298

13 November 2017

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

FROM: Undergraduate Committee, Department of Electrical & Computer Engineering

RE: Minor in Electrical Engineering

The Undergraduate Committee of the Department of Electrical & Computer Engineering has reviewed the application for the proposed minor in electrical engineering. After doing so, the Undergraduate Committee recommended and the ECE faculty unanimously approved the offering of the EE minor at a an ECE faculty meeting held on 10 November 2017.

We offer the full support of the proposed electrical engineering minor.

Nicolas Younan, ECE Department Head

J.W. Bruce, Undergraduate Committee Chair

J. Patrick Donohoe

Randy Follett

Masoud Karimi

Mehmet Kurum

Jean Mohammadi-Aragh

Lokesh Shivakumaraiah

Mississippi State UNIVERSITY

13 November 2017

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: Minor in Electrical Engineering

We have the reviewed the proposal for a minor in Electrical Engineering that will be made available to all students except those in the electrical engineering and computer engineering disciplines upon University approval. Our support for the proposed Electrical Engineering minor is given below.

Support proposal	Do not support proposal	
✓		Davy Belk, Ph.D., Aerospace Engineering
✓		Jonathan Pote, Ph.D., Agricultural & Biological Engineering
✓		Bill Elmore, Ph.D., Chemical Engineering
✓		Dennis Truax, Ph.D., P.E., Civil & Environmental Engineering
✓		Ed Swan, Ph.D., Computer Science & Engineering
✓		John Usher, Ph.D., P.E., Industrial & Systems Engineering
✓		Pedro Mago, Ph.D., Mechanical Engineering

APPROVAL FORM FOR

DEGREE PROGRAMS

MISSISSIPPI STATE UNIVERSITY

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: **School of Chemical Engineering**

Contact Person: **Bill B. Elmore** Mail Stop: **9595** E-mail: **elmore@che.msstate.edu**

Nature of Change: **Program Modification** Date Initiated: **11/17/17** Effective Date: **8/15/18**

Current Degree Program Name: **Petroleum Engineering**

Major: **Petroleum Engineering** Concentration: **NA**

New Degree Program Name: **NA**

Major: **Petroleum Engineering** Concentration: **NA**

Summary of Proposed Changes (for side-by-side comparison of current and proposed program see the attached *Degree Modification Outline* form):

1) Removal of the following courses from the PTE curriculum:
   - CHE 1101 Introduction to Chemical Engineering
   - GG 1113 Survey of Earth Sciences
   - PH 2223 Physics II
   - CHE 4313 Transport Phenomena

2) Addition of the following courses to the PTE curriculum:
   a. PTE 1001 Introduction to Petroleum Engineering (Course Proposal Submitted to UCCC and attached)
   b. CHE 3213 Heat Transfer Operations
   c. CHE 3203 Fluid Unit Operations
   d. PTE 4483 Capstone Design (Course Proposal Submitted to UCCC and attached)

Approved:	Date:
Bill Bilmore Department Head	1/25/18
Chair, College or School Curriculum Committee	1/30/18
Kurt Rawlins for Jason Kuta Dean of College or School	2/1/18
Chair, University Committee on Courses and Curricula	
Chair, Graduate Council (if applicable)	
Chair, Deans Council	

DEGREE MODIFICATION OUTLINE FORM

1. Catalog Description

Use the chart below to make modifications to an existing undergraduate degree outline. If any General Education (Core) course is acceptable in the category, please indicate by saying "any Gen Ed course". There is no need to type in the whole list. All deleted courses and information should be shown in *italics* and all new courses and information in **bold**. Include the course prefix, number, and title in both columns. Expand this table as needed.

CURRENT Degree Description	PROPOSED Degree Description
Degree: Petroleum Engineering Major: Petroleum Engineering Concentration:	Degree: Petroleum Engineering Major: Petroleum Engineering Concentration:
This curriculum is designed to educate students on the foundational principles required for success in the petroleum industry. Graduates will be prepared to enter the workforce and manage the human and energy resources in the petroleum industry. Students will develop hands-on, communication, and critical thinking skills to be successful. The program offers unique training with a particular emphasis on petroleum reservoir engineering, enhanced petroleum recovery methods, and thorough economic analysis. The degree is housed within the Swalm School of Chemical Engineering and offers a student-focused curriculum with one-on-one advising and professional development opportunities. The petroleum industry is one of the world's largest industries and is relied upon for our current way of life in several ways. First, petroleum fuels can be burned for energy which is used to supply heat and generate electricity for stationary applications. Secondly, petroleum has a favorable energy density and can be pursued for transportation applications. Finally, petroleum products are used to produce many chemical products of industrial and household relevance. The world consumes over 30 billion barrels of oil per year. It is estimated that 25% of the oil produced annually is used in the United States of America. The state of Mississippi ranks 13th in annual petroleum production in the United States. Major refineries in the state are located in Pascagoula, Vicksburg and Sandersville. The state is estimated to produce 3.1% of U.S. motor gasoline and 1.7% of U.S. distillate fuel, which are significant amounts given the total volume of consumption.	This curriculum is designed to educate students on the foundational principles required for success in the petroleum industry. Graduates will be prepared to enter the workforce and manage the human and energy resources in the petroleum industry. Students will develop hands-on, communication, and critical thinking skills to be successful. The program offers unique training with a particular emphasis on petroleum reservoir engineering, enhanced petroleum recovery methods, and thorough economic analysis. The degree is housed within the Swalm School of Chemical Engineering and offers a student-focused curriculum with one-on-one advising and professional development opportunities. The petroleum industry is one of the world's largest industries and is relied upon in numerous ways for sustaining a modern and ever-advancing energy-driven, technologically-based society.

2. Catalog Description

CURRENT CURRICULUM OUTLINE	Req Hrs	PROPOSED CURRICULUM OUTLINE	Req Hrs
English (Ex: EN 1103 English Comp I): EN 1103 English Composition I EN 1113 English Composition II	6	English (Ex: EN 1103 English Comp I): EN 1103 English Composition I EN 1113 English Composition II	6
Fine Arts (See General Education list):	3	Fine Arts (See General Education List):	3
Natural Sciences (2 labs required from Gen Ed): See Major Core			
Extra Science (if appropriate) See Major Core		Extra Science (if appropriate) See Major Core	
Math (General Education): See Major Core		Math (General Education): See Major Core	
Humanities (See General Education List):	6	Humanities (See General Education List):	6
Social/Behavioral Sciences (See General Education List):	6	Social/Behavioral Sciences (See General Education List):	6
Major Core Math and Basic Sciences MA 1713 Calculus I MA 1723 Calculus II MA 2733 Calculus III MA 2743 Calculus IV MA 3253 Differential Equations CH 1213 Chemistry I CH 1211 Investigations in Chemistry I CH 1223 Chemistry II CH 1221 Investigations in Chemistry II *GG 1113 Survey of Earth Sciences* PH 2213 Physics I *PH 2223 Physics II*	 3 3 3 3 3 3 1 3 1 *3* 3 *3*	Major Core Courses MA 1713 Calculus I MA 1723 Calculus II MA 2733 Calculus III MA 2743 Calculus IV MA 3253 Differential Equations CH 1213 Chemistry I CH 1211 Investigations in Chemistry I CH 1223 Chemistry II CH 1221 Investigations in Chemistry II PH 2213 Physics I	 3 3 3 3 3 3 1 3 1 3
Geology Elective (Choose one) Technical Elective: GG 4063 Development of Fossil Fuel Resources *GG 4153 Engineering Geology* GG 4304 Prin. of Sedimentary Deposits I GG 4413 Structural Geology GG 4443 Prin. of Sedimentary Deposits II	6	Geology & Geography Electives (Choose two—at least one must be a Geology Elective): **GG 4063 Development of Fossil Fuel Resources (proposal before UCCC to rename this course "Earth Energy Resources")** **GG 4233 Applied Geophysics** **GG 4304 Prin. of Sedimentary Deposits I** **GG 4413 Structural Geology** **GG 4433 Subsurface methods** **GG 4633 Introduction to Geochemistry** **GR 4303 Principles of GIS** **GR 4313 Advanced GIS** **GR 4323 Cartographic Sciences**	6

CURRENT Degree Description		PROPOSED Degree Description	
Major Core—Engineering Topics		Major Core—Engineering Topics	
CHE 1101 Intro. to Chem. & Pet. Engineering	*1*	**PTE 1101 Introduction to Petroleum Engineering**	1
CHE 2114 Mass & Energy Balances	4		4
CHE 2213 Analysis	3	CHE 2114 Mass & Energy Balances	3
CHE 3113 Chem. Engr. Thermodynamics I	3	CHE 2213 Analysis	3
CHE 3413 Engineering Materials	3	CHE 3113 Chem. Engr. Thermodynamics I	3
CHE 4313 Transport Phenomena	*3*	**CHE 3203 Fluids Unit Operations**	3
		CHE 3213 Heat Transfer	
EM 2413 Engineering Mechanics I	3	CHE 3413 Engineering Materials	
EM 3123 Mechanics of Materials	3		3
		EM 2413 Engineering Mechanics I	3
IE 3913 Engineering Economy I	3	EM 3123 Mechanics of Materials	
IE 4613 Engineering Statistics I	3		3
		IE 3913 Engineering Economy I	3
PTE 3902 Petroleum Engineering Lab I	2	IE 4613 Engineering Statistics I	
PTE 3903 Petroleum Reservoir Fluid Properties	3		2
	2	PTE 3902 Petroleum Engineering Lab I	3
PTE 3912 Petroleum Engineering Lab II	3	PTE 3903 Petroleum Reservoir Fluid Properties	2
PTE 3953 Pet. Res. Rock Prop. & Fluid Flow	3	PTE 3912 Petroleum Engineering Lab II	3
PTE 3963 Drilling	3	PTE 3953 Pet. Res. Rock Properties & Fluid Flow	3
PTE 3973 Petroleum Production Operations	3	PTE 3963 Drilling	3
PTE 4903 Petroleum Reservoir Engineering I	3	PTE 3973 Petroleum Production Operations	3
PTE 4913 Petroleum Reservoir Engineering II	3	PTE 4903 Petroleum Reservoir Engineering I	3
PTE 4923 Completion Design	3	PTE 4913 Petroleum Reservoir Engineering II	3
PTE 4953 Formation Evaluation	3	PTE 4923 Completion Design	3
PTE 4963 Oil Recovery Methods	3	PTE 4953 Formation Evaluation	3
PTE 4993 Petroleum Economic Analysis		PTE 4963 Oil Recovery Methods	3
		PTE 4993 Petroleum Economic Analysis	3
		PTE 4983 Capstone Design in Pet. Engr.	
Writing Requirement GE 3513 Technical Writing	3	Writing Requirement GE 3513 Technical Writing	3
Oral Communication Requirement—Fulfilled in PTE 3902, PTE 3912 and PTE 4993		Oral Communication Requirement—Fulfilled in PTE 3902, PTE 3912 and PTE 4993	
Total Hours	128	Total Hours	128

3. Justification and Student Learning Outcomes

The Petroleum Engineering (PTE) Bachelor's Degree program is being modified in response to an extensive review by the Petroleum Engineering faculty and by representatives from the oil and gas industry. The Petroleum Engineering B.S. degree was approved by IHL for initiation in the fall 2015 semester. Our PTE faculty (each of whom has been hired in the past two years) have evaluated the curriculum with regard to the necessary preparation needed for core petroleum engineering courses.

As indicated in the UCCC Proposal Guide, the proposed changes are being made to better prepare students to compete for internships and entry-level positions in the oil and gas industry and are based upon ***extensive feedback from program constituents including industry representatives and External Advisory Board members, petroleum engineering faculty and students.*** The proposed changes also bring the PTE curriculum more in line with similar curricula offered at peer and peer-plus institutions.

Justifications and Student Learning Outcomes are outlined below for each proposed change.

1) ***Course Deletions and Additions.***
   a. CHE 1101 Introduction to Chemical Engineering is being replaced by PTE 1101 Introduction to Petroleum Engineering (Course Proposal Attached). After consultation with program constituents (i.e. faculty, industrial representatives, students and Advisory Board members) it was determined that, given this early state of the PTE program it is very important to establish an introductory course directed specifically at petroleum engineering students to build student familiarity with PTE topics and strengthen interactions among PTE freshmen.

      Student learning outcomes will be an increased familiarity with the Petroleum Engineering industry, exposure to specific PTE topics and issues for the industry, and growth in soft skills of teamwork and leadership.

   b. GG 1113 Survey of Earth Science (an introductory course) is being replaced by a new course (proposal attached) PTE 4983 Capstone Design. ABET accreditation criteria specifically states that all engineering curriculum should culminate in a "capstone" design experience bringing into focus the spectrum of topics covered throughout the undergraduate curriculum. The Capstone Design course will enable students to put fundamental petroleum engineering principles into practice by focusing on a major project, the complexity of which commensurate with industry practice.

   c. PH 2223 Physics II is being replaced by CHE 3203 Fluid Flow Operations. The topics of fluid mechanics and flow behavior in piping/pumping systems are deemed by the PTE faculty to be critically important as prerequisite material for more advanced petroleum engineering topics. Learn outcomes include student ability to understand fluid mechanics principles and design fluids handling systems.

d. CHE 4313 Transport Phenomena is being replaced by CHE 3213 Heat Transfer Operations. Exposure to topics of heat transfer and associated processing equipment provide PTE students fundamental preparation for dealing with heat transport phenomena in the many processes of oil and gas processing (e.g. drilling and production). Further justification is required in that course prerequisites for CHE 4313 Transport Phenomena are CHE 3203 Fluid Flow Operations and CHE 3213 Heat Transfer. Retaining CHE 4313 Transport Phenomena as a degree requirement is unsustainable in light of these two course prerequisites which would exceed the allowable 128 SCH for the degree.

1. *Will this program change meet local, state, regional and national educational and cultural needs?*

   As noted earlier, these changes are made in direct response to feedback from industry representatives and alumni who are active in national and international oil and gas companies to ensure that our graduates are competitive.

2. *Will this program change result in duplication in the System?*

   The Petroleum Engineering program at Mississippi State University is unique to the State of Mississippi and offers a unique degree program to a number of surrounding states through the Academic Common Market.

3. *Will this program change/advance student diversity within the discipline?*

   The Petroleum Engineering program has drawn students from underrepresented minorities from within Mississippi and from out of state thereby increasing the diversity in the field of petroleum engineering and within the university. The proposed changes to the curriculum strengthen the engineering fundamentals and training of our graduates.

4. *Will this program change result in an increase in the potential placement of graduates in Mississippi, the Southeast and in the U.S.*

   Without question, the concentration of oil and gas companies in Mississippi and in this region of the U.S. will be significantly enhanced by Mississippi State Petroleum Engineering graduates entering the field. Given the historic recognition of Mississippi State engineering graduates across all degree programs, the Petroleum Engineering bachelor's degree program promises to join the ranks of other Bagley College of Engineering degree programs in providing quality graduates to industry, government and advance degree programs. As noted earlier, the proposed changes will enhance the marketability and placement of MSU Petroleum Engineering graduates.

5. *Will the program change result in an increase in the potential salaries of graduates in Mississippi, the Southeast and in the U.S.?*

   Petroleum Engineering graduate salaries are among the highest of any bachelor's degree starting salary in the United States. The proposed curriculum changes further enhance the marketability of our graduates and offers the potential for PTE graduates to lead the Bagley College of Engineering in per capita salary offers for entry-level BCOE and MSU graduates.

4. Letters of Support

Letters of support from the Swalm School of Chemical Engineering faculty and the Geosciences faculty are attached.

5. Proposed 4-letter abbreviation

The Petroleum Engineering program is designated by the letters PTE

6. Effective Date

The proposed effective date is Fall 2018.

MISSISSIPPI STATE UNIVERSITY

Dave C. Swalm School of Chemical Engineering
Box 9595 • Mississippi State, MS 39762
Phone (662) 325-2480 • FAX (662) 325-2482

Date: November 20, 2017

To: University Committee on Courses and Curricula

Through: Bagley College of Engineering Committee on Courses and Curricula

From: Faculty, Dave C. Swalm School of Chemical Engineering

RE: Proposed changes to the petroleum engineering degree program

We, the undersigned faculty, support the proposed changes to the petroleum engineering degree program as summarized below (with details in attached documents).

1) Removal of CHE 1101 Introduction to Chemical Engineering to be replaced by a new course PTE 1101 Introduction to Petroleum Engineering (Course Proposal Attached)

2) Removal of GG 1113 Survey of Earth Sciences (3 SCH to be replaced by addition of a capstone design course—PTE 4983 (Proposed Course Number)—Course Proposal attached).

3) Removal of PH 2223 Physics II to be replaced by CHE 3203 Unit Operations Fluids

4) Removal of CHE 4313 Transport Phenomena to be replaced by CHE 3213 Unit Operations Heat Transfer

5) Geology and Technical Electives to be selected from a specific list (attached).

Amin Amirlatifi

W. Todd French

Santanu Kundu

Dong Meng

Yizhi Xiang

R. Mark Bricka

Pricilla Hill

Maryam Maribolghasemi

Neeraj Rai

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January 22, 2018

The Department of Geosciences Curriculum Committee recently met to discuss the proposed changes to the PTE major and their impacts on the Department of Geosciences. After discussion, the committee voted unanimously to support the proposal, though we would like to offer suggestions regarding the proposed changes.

The Department of Geosciences feels it is important for students to retain a solid grasp geophysical processes related to oil formation and the rock types that contain oil, and we propose that some additional courses be added to the list of electives that students may choose from. In particular:

- GG 4443 Principles of Sediment Deposits II – this course is recommended as it gives students an understanding of large-scale reservoir morphology
- GG 4633 Introduction to Geochemistry – this is recommended as Geophysics will only be offered every other Fall, with this course being offered in its stead

We would also recommend that you modify the course name of GG 4063 Development of Fossil Fuels to its new name (currently in review at UCCC level) Earth Energy Resources. Finally, we noted that there are prerequisites for many of our listed courses, but these are not fatal and feel that they may be waived at the consent of the instructor, with the exception of the GG 4303 prerequisite for GG 4443 which will be enforced.

We look forward to the continued positive impact that this program will have to our department and Mississippi State University.

Respectfully,

Andrew Mercer (Committee Chair)

Kathleen Sherman-Morris (Committee Member)

Rinat Gabitov (Committee Member)

Shrinidhi Ambinakudige (Committee Member)

Cc: Dr. John C. Rodgers, Interim Department Head of Geosciences