A MEMORANDUM

DATE: February 7, 2022

TO: UCCC Members

FROM: Dr. Andy Perkins, Chair

SUBJECT: UCCC Meeting on Friday, February 18, 2022 at 1:30 p.m.

The agenda and proposals for the meeting on **Friday, February 18, 2022 at 1:30 p.m. in the Trotter Room (Room 2200) of the Center for Advanced Vehicular Systems in the Research Park** are enclosed**.** The minutes will be forwarded by a separate email. Please contact the UCCC Office if you are unable to attend the meeting.

Thank you.

Enclosures: Course/Curriculum Proposals

Summary of Recommended Changes:

Change 1: Amend the Non-Voting Members to accurately reflect the current names of the various offices and centers.

Change 2: Add Center for Distance Education, Center for Teaching and Learning, University Academic Advising Center, and Office of Research and Economic Development (as pertains to curriculum related issues with Centers and faculty research) and correct the name of Office of Institutional Research and Effectiveness (one entity).

Change 3: Stipulate that Officers shall include a Vice-Chair to be elected by membership.

Current By-Law:

ARTICLE III COMPOSITION

The UCCC membership shall include voting faculty members, three voting student members and additional non-voting representatives as listed below.

Section 3 The non-voting members shall be:

A. A representative of the Registrar's Office.
B. A representative of the Library.
C. The Secretary employed for the UCCC.
D. A representative of the Office of Research and Institutional Effectiveness.
E. A representative of the Information Technology Services.
F. A representative of the Graduate School.
G. A representative of the Office of Institutional Research.

Recommended Revision:

Section 3 The non-voting members shall be:

A. A representative of the Registrar's Office.
B. A representative of the Library.
C. The Secretary employed for the UCCC.
D. A representative of the Office of Institutional Research and Effectiveness.
E. A representative of the Information Technology Services.
F. A representative of the Graduate School.
G. ~~A representative of the Office of Institutional Research.~~
G. A representative of the Center for Distance Education.
H. A representative of the Center for Teaching and Learning.
I. A representative of the University Academic and Advising Center.
J. A representative of the Office of Research and Economic Development

Current By-Law:

ARTICLE VI OFFICERS

Section 1 The officers of the UCCC shall be a Chair and a Secretary.
Chair- to preside at all meetings of the UCCC and represent the UCCC to the University. The Chair shall be elected annually at the January meeting by the members of the UCCC. The Chair shall be a current, elected member of the UCCC with a minimum of one year's experience on the UCCC. The Chair's term shall be from July 1 to June 30 of the school year of election. The Chair shall receive 25% released time to perform the duties of the Chair in reviewing proposals, advising colleges and departments concerning proposals and establishing meeting times and agendas. In the event that the Chair cannot preside at a called meeting, the Secretary will serve as the presiding officer.

Secretary- the Secretary shall be a paid employee of the University with responsibility for managing the UCCC office and assisting the UCCC Chair.

Recommended Revision:

ARTICLE VI OFFICERS

Section 1 The officers of the UCCC shall be a Chair, Vice-Chair and a Secretary.

Chair- to preside at all meetings of the UCCC and represent the UCCC to the University. The Chair shall be elected annually at the January meeting by the members of the UCCC. The Chair shall be a current, elected member of the UCCC with a minimum of one year's experience on the UCCC. The Chair's term shall be from July 1 to June 30 of the school year of election. The Chair shall receive 25% released time to perform the duties of the Chair in reviewing proposals, advising colleges and departments concerning proposals, ~~and~~ establishing meeting times and agendas and attending Associate Deans Council. In the event that the Chair cannot preside at a called meeting, the ~~Secretary~~ Vice-Chair will serve as the presiding officer.

Vice-Chair- to assist the Chair in the execution of duties related to UCCC. The Vice-Chair shall be elected annually at the January meeting by the members of the UCCC. The Vice-Chair shall be a current, elected member of the UCCC with a minimum of one year's experience on the UCCC. The Vice Chair's term shall be from July 1 to June 30 of the school year of election. In the event that the Chair cannot preside at a called meeting, the Vice-Chair will serve as the presiding officer.

Secretary- the Secretary shall be a paid employee of the University with responsibility for managing the UCCC office and assisting the UCCC Chair.

AGENDA
UNIVERSITY COMMITTEE ON COURSES AND CURRICULA
February 18, 2022

1. **Welcome**
2. **Approval of minutes**
3. **Proposed modification of By-Laws**
4. **Proposed University Syllabus – Dana Franz**
5. **Course proposals by college/school**

ACADEMIC AFFAIRS

Addition +Gen. Ed. +Meridian +Online/Distance +Study Broad	DSCI 2013	Data Science Literacy

AGRICULTURE AND LIFE SCIENCES

Modification +Online/Distance	EPP 3124	Forest Pest Management
Addition +Online/Distance	EPP 6863 (split level with 4863)	Insects and Global Change
+Online/Distance	EPP 8273	Empirical Research in Theory and Practice
Addition +Online/Distance	EPP 8363	Insect Biotechnology
Modification +Online/Distance	FNH 4123/6123	Medical Nutrition Therapy I
Modification +Online/Distance	FNH 4233/6233	Medical Nutrition Therapy II
Addition +Online/Distance	HDFS 4624/6624	Family Life Education Methodology
Modification +Online/Distance	PSS 4443/6443	Athletic Field Management
Modification +Online/Distance	PSS 4453/6453	Vegetable Production

ARTS AND SCIENCES

+Online/Distance	EN 0103	Basic English
Addition +Online/Distance	EN 2123	The Greek and Latin Roots of English
Addition +Online/Distance +Gen. Ed.	FL 2123	The Greek and Latin Roots of English
Addition +Online/Distance	FL 4203/6203	Methods of Teaching K-8 World Languages
Addition +Online/Distance	FL 4213/6213	Methods of Teaching 9-12 World Languages
Addition +Online/Distance	FL 4223/6233	Foundations in Online Language Teaching
Addition +Online/Distance	FL 4233/6233	Linguistics for World Language Teachers
Addition +Online/Distance	FL 4463/6463	Studies in Second Language Acquisition

Modification +Online/Distance	REL 4143	Classical Mythology
Modification +Online/Distance	ST 8353	Statistical Computations

ENGINEERING

Addition +Online/Distance	CHE 4793/6793	Practical Application of Chemical Engineering Principles Equipment

5. Degree proposals by college/school

AGRICULTURE AND LIFE SCIENCES

Modification	BS	Human Development and Family Science: Child Development, Child Life, Youth Development, and Family Science

ENGINEERING

Modification	BS	Computer Engineering
+Online/Distance	BS	Electrical 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: Agriculture and Life Sciences **Department:** School of Human Sciences

Contact Person: Julie Parker **Mail Stop:** 9745 **E-mail:**JCP162@msstate.edu
Nature of Change: Modification **Date Initiated:** 12/1/21 **Effective Date:** 8/1/22
Current Degree Program Name: Human Development and Family Science

Major: Human Development and Family Science **Concentration(s):** Child Development, Child Life, Youth Development, and Family Science

New Degree Program Name: Same

Major: Same **Concentration: Same**

Summary of Proposed Changes:
The faculty of Human Development and Family Science has made the following revision to the HDFS curriculum to better align the curriculum with our national standards and accreditation criteria.

Changes to General Education Core Selections:

Child Life Concentration must take BIO 1004 as one of the lab sciences courses to satisfy certification requirements

Child Life Concentration must take PHI 1123 as one of the Humanities courses to satisfy certification requirements

Changes to major core:
HDFS 4313 to replace HDFS 3303
HDFS 4624 to be added as an either-or option for HDFS students
HDFS 4843 to replace HDFS 4853

Concentration area changes:

Child Life:
HDFS 2023, 2123 are added to the required concentration courses

HDFS 4893 is added as an option for the required adolescent development requirement
HDFS 4802 is added as a requirement for certification
HDFS 3123 is added as an option to COE4013
KI 2603 is added as a requirement for certification

Youth Development:
HDFS 2023, 21123, and 3123 are added as options for the 15 chosen hours. These courses complete the MSU Trauma Informed Child Advocacy Certificate.
PE 3533 is added as an optional elective course

Family Science:
HDFS 4853 is added to the concentration requirement

Family and Consumer Science Education:
EDS 3413 replaces EDS 3411
AELC 4873 replaces EDS 4873
FDM 2153 replaces FDM 1533
HDFS 4853 is added to the concentration to fulfill CFLE requirements

Approved:	Date:
Michael E. Neuma Department Head	12-14-2021
Chair, College or School Curriculum Committee	01/26/2022
Dean of College or School	1/27/2022
Chair, University Committee on Courses and Curricula	
Chair, Graduate Council(if applicable)	
Chair, Deans Council	

DEGREE MODIFICATION OUTLINE FORM

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: Bachelor of Science Major: Human Development and Family Science		Degree: Bachelor of Science Major: Human Development and Family Science	
This program offers an interdisciplinary lifespan approach to the study of children, youth, and families. It encompasses specialty areas in preschool teaching, childcare, youth development, family science, child life, and family and consumer sciences teacher education. Students develop an awareness of trends, issues and public policy affecting families and analyze factors that influence cognitive, emotional, social and physical development in the contexts of culture and family. Graduates enter diverse public and private sectors that focus on enabling children, youth, and families to function effectively in today's complex society. Specific course work is required to specialize in each area or meet Class A teacher licensure requirements for family and consumer sciences in the state of Mississippi. Specific course work is also required to specialize in preschool education, youth development, or family science. A grade of "C" or better is required for all major courses (Human Development and Family Science courses).		This program offers an interdisciplinary lifespan approach to the study of children, youth, and families. It encompasses specialty areas in preschool teaching, childcare, youth development, family science, child life, and family and consumer sciences teacher education. Students develop an awareness of trends, issues and public policy affecting families and analyze factors that influence cognitive, emotional, social and physical development in the contexts of culture and family. Graduates enter diverse public and private sectors that focus on enabling children, youth, and families to function effectively in today's complex society. Specific course work is required to specialize in each area or meet Class A teacher licensure requirements for family and consumer sciences in the state of Mississippi. Specific course work is also required to specialize in preschool education, youth development, or family science. A grade of "C" or better is required for all major courses (Human Development and Family Science courses).	
CURRENT CURRICULUM OUTLINE	Required Hours	**PROPOSED CURRICULUM OUTLINE**	Required Hours
EN 1103 English Comp I EN 1113 English Comp II	6	EN 1103 English Comp I EN 1113 English Comp II	6
Fine Arts (General Education):	3	Fine Arts (General Education):	3
Natural Sciences (2 *labs* required from Gen Ed): BIO 1004- Anatomy and Physiology required for Child Life Concentration	*9*	Natural Sciences (2 **lab sciences** required from Gen Ed): **Select from Gen Ed courses for Child Development, Youth Development, and Family Science** BIO 1004- Anatomy and Physiology required for Child Life Concentration	**6**
Extra Science (if appropriate) HS 2293 Individual and Family Nutrition required for FCS Education Select from Gen Ed courses for Child Development, Youth Development, and Family Science		Extra Science (if appropriate) HS 2293 Individual and Family Nutrition required for FCS Education Select from Gen Ed courses for Child Development, **Child Life**, Youth Development, and Family Science	**3**
Math (General Education):	6	Math (General Education):	6

Humanities (General Education):	6	Humanities (General Education): **PHI 1123- Intro to Ethics required for Child Life Concentration**	6
Social/Behavioral Sciences (Gen Ed): HDFS 1813 is required for all HDFS Concentrations EPY 3543 is required for FCS Education Concentration	6	Social/Behavioral Sciences (Gen Ed): HDFS 1813 is required for all HDFS Concentrations EPY 3543 is required for FCS Education Concentration	6
Gen Ed Core	36	Gen Ed Core	36
Major Core Courses HS 1701 Survey of Human Sciences HDFS 2813 Child Development *HDFS 3303 Consumer Economics* HDFS 4333 Families, Legislation, & Public Policy HDFS 4424 Teaching Methods in Ag & HS *HS 4701 Internship Placement Seminar* HS 4702 Research and Application in HS HDFS 4803 Parenting *HDFS 4853 The Family: An Ecological Perspective* HDFS 4883 Risk, Resilience, & Preventive Interventions Writing Competency met by: *AELC 3203 Intro to Tech Writing* OR EDF 3413 Writing for Thinking OR EPY 3513 Writing for Behavioral Sciences OR MGT 3213 Organizational Communication		Major Core Courses HS 1701 Survey of Human Sciences HDFS 2813 Child Development **HDFS 4313 Family Resource Management** HDFS 4333 Families, Legislation, & Public Policy HDFS 4424 Teaching Methods in Ag & HS OR **HDFS 4624 Family Life Education Methodology** **HDFS 4701 Internship Preparation** HS 4702 Research and Application in HS HDFS 4803 Parenting **HDFS 4843 Family Interaction** HDFS 4883 Risk, Resilience, & Preventive Interventions Writing Competency met by: **AELC 3203 Professional Writing in Agriculture, Natural Resources, and Human Sciences** OR EDF 3413 Writing for Thinking OR EPY 3513 Writing for Behavioral Sciences OR MGT 3213 Organizational Communication	
Major Core	29	Major Core	29
The child development concentration explores the growth and development of children (conception until adolescence) within the family system and sociocultural milieu. This coursework prepares students to be become competent early care and education professionals, parent educators, child advocates, and early interventionists within the public, private, and non-profit sectors. Students learn real-world application through lab experiences at the Child Development and Family Studies Center and internships in settings that align with the students' career goals. PreK-K teaching candidates must complete a PreK-K Teacher Candidacy Internship under the supervision of a licensed teacher. To be eligible for PreK-K teaching licensure in Mississippi, students must pass the Praxis Core or have a cumulative		The child development concentration explores the growth and development of children (conception until adolescence) within the family system and sociocultural milieu. This coursework prepares students to be become competent early care and education professionals, parent educators, child advocates, and early interventionists within the public, private, and non-profit sectors. Students learn real-world application through lab experiences at the Child Development and Family Studies Center and internships in settings that align with the students' career goals. PreK-K teaching candidates must complete a PreK-K Teacher Candidacy Internship under the supervision of a licensed teacher. To be eligible for PreK-K teaching licensure in Mississippi, students must pass the Praxis Core or have a cumulative	

ACT score of at least 21; have a GPA of at least 2.75; and pass the Praxis II Early Childhood Principles of Teaching and Learning (5621) and the Praxis II Child Development (5024).		ACT score of at least 21; have a GPA of at least 2.75; and pass the Praxis II Early Childhood Principles of Teaching and Learning (5621) and the Praxis II Child Development (5024).	
Child Development Concentration HDFS 2803 Prenatal & Infant Development HDFS 3803 Creat & Play in Yng Child HDFS 3813 Lifespan Theory HDFS 3823 Methods & Materials ECEP HDFS 3843 Guiding Child Behavior HDFS 3853 Lang and Literacy in Early Years HDFS 4760 Child Development Internship or HDFS 4740 PreK-K Teacher Candidacy Internship (12 hours) HDFS 4823 Dev & Admin of Child Ser Prog HS 2283 Child Health & Nutrition EDX 3213 Psy & Ed of Exc Child & Youth CO 1003 Fundamentals of Public Speaking OR CO 1013 Introduction to Communication COE 4013 Facilitative Skills Dev OR HDFS 3123 Global Child Advocacy Issues 14 hours electives		Child Development Concentration HDFS 2803 Prenatal & Infant Development HDFS 3803 Creat & Play in Yng Child HDFS 3813 Lifespan Theory HDFS 3823 Methods & Materials ECEP HDFS 3843 Guiding Child Behavior HDFS 3853 Lang and Literacy in Early Years HDFS 4760 Child Development Internship or HDFS 4740 PreK-K Teacher Candidacy Internship (12 hours) HDFS 4823 Dev & Admin of Child Ser Prog HS 2283 Child Health & Nutrition EDX 3213 Psy & Ed of Exc Child & Youth CO 1003 Fundamentals of Public Speaking OR CO 1013 Introduction to Communication COE 4013 Facilitative Skills Dev OR HDFS 3123 Global Child Advocacy Issues 14 hours electives	
Concentration Hours	59	Concentration Hours	59
Total Hours	124	Total Hours	124
A concentration in child life provides the student with an overview of the role of the child life specialist working with children and their families in a health care setting. The primary emphases of the child life concentration are on student demonstration of knowledge, skills, and abilities required to assume the responsibilities of a child life professional. This includes involvement in the assessment of clients; planning and delivering child life services to patients including medical play, pre-procedural teaching, use of distractions, etc.; and evaluating the effectiveness of the interventions and plan.		A concentration in child life provides the student with an overview of the role of the child life specialist working with children and their families in a health care setting. The primary emphases of the child life concentration are on student demonstration of knowledge, skills, and abilities required to assume the responsibilities of a child life professional. This includes involvement in the assessment of clients; planning and delivering child life services to patients including medical play, pre-procedural teaching, use of distractions, etc.; and evaluating the effectiveness of the interventions and plan.	
Concentration Courses Child Life		Concentration Courses Child Life	

HS 2283 Child Health and Nutrition HDFS 2803 Prenatal & Infant Development HDFS 3803 Creat & Play in Yng Child HDFS 3813 Lifespan Theory *HDFS 3823 Methods & Materials ECEP* HDFS 3843 Guiding Child Behavior HDFS 3853 Lang & Literacy in Early Years HDFS 4770 Child Life Internship OR HDFS 4760 Child Development Internship *OR HDFS 4740 PreK-K Teacher* Candidacy Internship (12 hours) HDFS 4823 Dev & Admin of Child Ser Prog *HDFS 4832 Child Life Clinical* HDFS 4833 The Hospitalized Child EDX 3213 Psy & Ed of Exc Child & Youth COE 4013 Facilitative Skills Dev CO 1003 Fundamentals of Public Speaking OR CO 1013 Introduction to Communication 9 hours electives		**HDFS 2023 Trauma-Informed Practice** **HDFS 2123 Perspectives on Child Maltreatment and Child Advocacy** HS 2283 Child Health & Nutrition HDFS 2803 Prenatal & Infant Development HDFS 3803 Creat & Play in Yng Child HDFS 3813 Lifespan Theory HDFS 3843 Guiding Child Behavior HDFS 3853 Lang & Literacy in Early Years HDFS 4770 Child Life Internship OR HDFS 4760 Child Development Internship Candidacy Internship (12 hours) HDFS 4823 Dev & Admin of Child Ser Prog HDFS 4833 The Hospitalized Child **HDFS 4873 Positive Youth Development or HDFS 4893 Adolescent Development** **HDFS 4802 Grief and Bereavement** EDX 3213 Psy & Ed of Exc Child & Youth COE 4013 Facilitative Skills Dev **OR HDFS 3123 Global Child Advocacy Issues** CO 1003 Fundamentals of Public Speaking OR CO 1013 Introduction to Communication **KI 2603 Medical Terminology** 0 hours electives	
Concentration Hours	59	Concentration Hours	59
Total Hours	124	Total Hours	124
The Youth Development curriculum prepares students to understand and work effectively with children and adolescents, ages 10-18, in a variety of settings. The program provides students with a comprehensive view of the needs and developmental characteristics of youths, as well as the challenges facing today's youths. Emphasis is placed on understanding how youth development does not occur in isolation but is situated in, and affected by, contexts such as relationships, family, neighborhood/community, school, culture, the economy, and society. Youth Development students gain valuable real-world experience through a required field experience course and an internship. Students are also able to develop specific areas of specialization to fit		The Youth Development curriculum prepares students to understand and work effectively with children and adolescents, ages 10-18, in a variety of settings. The program provides students with a comprehensive view of the needs and developmental characteristics of youths, as well as the challenges facing today's youths. Emphasis is placed on understanding how youth development does not occur in isolation but is situated in, and affected by, contexts such as relationships, family, neighborhood/community, school, culture, the economy, and society. Youth Development students gain valuable real-world experience through a required field experience course and an internship. Students are also able to develop specific areas of specialization to fit their career	

their career interests by choosing from a generous variety of focus area courses.		interests by choosing from a generous variety of focus area courses.	
Concentration Courses HDFS 3000 Field Experience (3 hours) HDFS 3813 Lifespan Theory HDFS 4780 Youth Development Internship (12 hours) HDFS 4873 Positive Youth Development PSY 4223 Drug Use and Abuse OR SW 4533 Substance Abuse and Addictions in Social Work Services CO 1003 Fundamentals of Public Speaking OR CO 1013 Introduction to Communication Choose three of the following (9 hours): AELC 4403 Development of Youth Programs PSY 3413 Human Sexual Behavior EDX 3213 Psy & Ed of Exc Child & Youth COE 4013 Facilitative Skills Dev EPY 3543 Psychology of Adolescence *Choose 12 hours from the following:* HDFS 3833 Human Dev. in the Context of Leisure & Rec. HDFS 3673 Environments for Special Needs EDX 4423 Teaching the Disadvantaged Child EPY 3503 Principles of Educational Psychology, EPY 3553 Giftedness/Creativity *EPY 4053 Psych & Education of Ment Retarded* SO 4233 Juvenile Delinquency SO 3313 Deviant Behavior SO 3503 Violence in the U.S. SO 3603 Criminology SO 4333 Sociology of Sport SO 3213 Intro to Social Research SO 2203 Cultural and Racial Minorities PE 3033 Basketball/Football Officiating PE 3133 Adaptive Physical Education *PE 3183 Psychology of Sport & Exercise* KI 2213 Emergency Healthcare PE 3422 Coaching Football PE 3432 Coaching Basketball *PE 3452 Coaching Softball and Baseball* PE 3433 General Safety Methods MGT 3213 Organizational Communications		Concentration Courses HDFS 3000 Field Experience (3 hours) HDFS 3813 Lifespan Theory HDFS 4780 Youth Development Internship (12 hours) HDFS 4873 Positive Youth Development **HDFS 4893 Adolescent Development** PSY 4223 Drug Use and Abuse OR SW 4533 Substance Abuse and Addictions in Social Work Services CO 1003 Fundamentals of Public Speaking OR CO 1013 Introduction to Communication Choose three of the following (9 hours): AELC 4403 Development of Youth Programs PSY 3413 Human Sexual Behavior EDX 3213 Psy & Ed of Exc Child & Youth COE 4013 Facilitative Skills Dev EPY 3543 Psychology of Adolescence **Choose 15 hours from the following:** ***HDFS 2023 Trauma-Informed Practice Certificate Course** ***HDFS 2123 Perspectives on Child Maltreatment** ***HDFS 3123 Global Child Advocacy Issues** HDFS 3833 Human Dev. in the Context of Leisure & Rec. HDFS 3673 Environments for Special Needs EDX 4423 Teaching the Disadvantaged Child EPY 3503 Principles of Educational Psychology, EPY 3553 Giftedness/Creativity SO 4233 Juvenile Delinquency SO 3313 Deviant Behavior SO 3503 Violence in the U.S. SO 3603 Criminology SO 4333 Sociology of Sport SO 3213 Intro to Social Research SO 2203 Cultural and Racial Minorities PE 3033 Basketball/Football Officiating PE 3133 Adaptive Physical Education **PE 3533 Coaching Sports** KI 2213 Emergency Healthcare PE 3422 Coaching Football	

MGT 3114 Prin of Mgt & Prod MGT 3513 Intro to Human Res Mgt MGT 3813 Organizational Behavior MGT 4563 Staffing in Organizations MKT 3013 Principles in Marketing MKT 3213 Retailing MKT 4113 Personal Selling MKT 4123 Advertising *11 hours electives*		PE 3432 Coaching Basketball PE 3433 General Safety Methods MGT 3213 Organizational Communications MGT 3114 Prin of Mgt & Prod MGT 3513 Intro to Human Res Mgt MGT 3813 Organizational Behavior MGT 4563 Staffing in Organizations MKT 3013 Principles in Marketing MKT 3213 Retailing MKT 4113 Personal Selling MKT 4123 Advertising *Meets Requirements for Trauma-Informed Child Advocacy Certificate **5 hours electives**	
Concentration Hours	59	Concentration Hours	59
Total Hours	124	Total Hours	124
The Family Science program helps students discover, verify, and apply knowledge about the family. Family Science students gain valuable real-world experience through a required field experience course and an internship, and graduates are able to receive provisional certification through the National Council on Family Relations as Certified Family Life Educators, recognizing their competence in a broad range of ten family-related content areas. They are prepared to address societal issues including economics, education, work-family issues, parenting, sexuality, gender, substance abuse, domestic violence, unemployment, debt, and child abuse within the context of the family. Graduates can work in a variety of governmental, non-profit, religious, and private agencies.		The Family Science program helps students discover, verify, and apply knowledge about the family. Family Science students gain valuable real-world experience through a required field experience course and an internship, and graduates are able to receive provisional certification through the National Council on Family Relations as Certified Family Life Educators, recognizing their competence in a broad range of ten family-related content areas. They are prepared to address societal issues including economics, education, work-family issues, parenting, sexuality, gender, substance abuse, domestic violence, unemployment, debt, and child abuse within the context of the family. Graduates can work in a variety of governmental, non-profit, religious, and private agencies.	
Concentration Courses HDFS 3000 Field Experience (3 hours) HDFS 3813 Lifespan Theory *HDFS 4313 Family Resource Management* HDFS 4403 Intro to Gerontology HDFS 4790 Family Science Internship (12 hours) HDFS 4813 Adult Development: The Middle Years *HDFS 4843 Family Interaction* HDFS 4873 Positive Youth Development HS 3673 Environments for Special Needs COE 4013 Facilitative Skills Dev PSY 3413 Human Sexual Behavior PSY 4223 Drug Use and Abuse OR SW 4533 Substance Abuse and Addictions in Social Work Services CO 1003 Fundamentals of Public Speaking OR CO 1013 Introduction to		Concentration Courses HDFS 3000 Field Experience (3 hours) HDFS 3813 Lifespan Theory HDFS 4403 Intro to Gerontology HDFS 4790 Family Science Internship (12 hours) HDFS 4813 Adult Development: The Middle Years **HDFS 4853 The Family: An Ecological Perspective** HDFS 4873 Positive Youth Development HS 3673 Environments for Special Needs COE 4013 Facilitative Skills Dev PSY 3413 Human Sexual Behavior PSY 4223 Drug Use and Abuse OR SW 4533 Substance Abuse and Addictions in Social Work Services CO 1003 Fundamentals of Public Speaking OR CO 1013 Introduction to Communication	

Communication *11 hours electives*		**14 hours electives**	
Concentration Hours	59	Concentration Hours	59
Total Hours	124	Total Hours	124
The Family and Consumer Sciences teacher education program at Mississippi State University is NCATE accredited. Students must conform to the policies on teacher education, as explained under "Teacher Licensure" elsewhere in this catalog. Following is a list of courses taught in selected Mississippi high schools and vo-tech centers: family dynamics, resource management, nutrition and wellness, family and individual health, personal development, and child development. Family and Consumer Sciences teachers can also teach in high school Occupational Programs (such as food production, childcare, and clothing production). Some additional on-the-job training is required to teach these courses. Completion of a Bachelor of Science in Human Development and Family Science (Family and Consumer Sciences Education emphasis) degree from the School of Human Sciences at Mississippi State University leads to licensure to teach these courses.		The Family and Consumer Sciences teacher education program at Mississippi State University is AAFCS accredited. Students must conform to the policies on teacher education, as explained under "Teacher Licensure" elsewhere in this catalog. Following is a list of courses taught in selected Mississippi high schools and Career and Technical Centers: family dynamics, resource management, nutrition and wellness, family and individual health, personal development, and child development. Family and Consumer Sciences teachers can also teach in high school Occupational Programs (such as food production, childcare, and clothing production). Some additional on-the-job training is required to teach these courses. Completion of a Bachelor of Science in Human Development and Family Science (Family and Consumer Sciences Education emphasis) degree from the School of Human Sciences at Mississippi State University leads to licensure to teach these courses.	
Concentration Courses EDF 3333 Social Foundations of Education EDF 4243 Planning for Diversity of Learners *EDS 3411 Practicum in Secondary Ed* *EDS 4873 Seminar in Managing Secondary Class* EDX 3213 Psych & Ed of Excep Child & Youth EPY 3143 Human Dev & Learning Strategies in Ed *EPY 3253 Evaluating Learning* *FDM 1533 Apparel Design I* HDFS 2803 Prenatal and Infant Development HDFS 3000 Field Experience (1 hour) *HDFS 4313 Family Resource Management* HDFS 4462 Curriculum in Human Sciences HDFS 4886 Teaching Internship in Vocat. Human Sci. HDFS 4896 Teaching Internship in Vocat. Human Sci HS 2203 Science of Food Preparation HS 2283 Child Health and Nutrition		Concentration Courses EDF 3333 Social Foundations of Education EDF 4243 Planning for Diversity of Learners **EDS 3413 Principles of Secondary Education** **AELC 4873 Prof Seminar in Ag Ed** EDX 3213 Psych & Ed of Excep Child & Youth EPY 3143 Human Dev & Learning Strategies in Ed **FDM 2153 Fashion Apparel Analysis** HDFS 2803 Prenatal and Infant Development HDFS 3000 Field Experience (1 hour) HDFS 4462 Curriculum in Human Sciences **HDFS 4853 Family: Ecological Model** HDFS 4886 Teaching Internship in Vocat. Human Sci. HDFS 4896 Teaching Internship in Vocat. Human Sci HS 2203 Science of Food Preparation	

HS 2603 Interior Design Fundamentals KI 1803 Health Trends and Topics PSY 3413 Human Sexual Behavior *1 hour elective*		HS 2283 Child Health and Nutrition HS 2603 Interior Design Fundamentals KI 1803 Health Trends and Topics PSY 3413 Human Sexual Behavior **2 hour elective**	
Concentration Hours	59	Concentration Hours	59
Total Hours	124	Total Hours	124

MISSISSIPPI STATE UNIVERSITY.

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

December 9, 2021

Dr. Brandan Wheeler
Chair, CALS Curriculum Committee
MS State, MS 39762

Dear Dr. Wheeler:

The School of Human Sciences Curriculum Committee affirms support for the curriculum revisions for the Human Development and Family Science undergraduate program. This program is offered for students in both Campus 1 and Campus 5.

Sincerely,

Julie C Parker
Julie Parker, Chair

Chelsea Panse-Barone
Chelsea Panse-Barone

OP McCubbins
OP McCubbins

Carley C. Morrison
Carley Morrison

Charles Freeman
Charles Freeman

MISSISSIPPI STATE UNIVERSITY

COLLEGE OF ARTS & SCIENCES
Department of Philosophy & Religion

J. Robert Thompson, Head
George Hall 1010
233 Lee Blvd
P.O. Box JS
Mississippi State, MS 39762

P. 662.325.2161
F. 662.325.3340
www.philosophyandreligion.msstate.edu

January 11, 2022

To Whom It May Concern:

The Department of Philosophy and Religion supports the inclusion of PHI 1123: Introduction to Ethics in the HDFS academic program. This course is offered in several sections each semester and is typically offered in the summer terms as well.

Sincerely,

J. Robert Thompson, Ph.D.
Head
Department of Philosophy and Religion

MISSISSIPPI STATE UNIVERSITY

DEPARTMENT OF KINESIOLOGY
P.O. Box 6186
216 McCarthy Gym
Mississippi State, MS 39762

P. 662.325.2963
F. 662.325.4525
www.kinesiology.msstate.edu

January 11th, 2022

Dr. Brown,

The Exercise Science Curriculum Committee has considered the request for Human Development and Family Science acadmic program to add KI 2603 (Medical Terminology) to their plan of study. We give our support for the Human Development and Family Science to take this course as a requirement for their graduation.

Sincerely,

JohnEric W. Smith, PhD

JohnEric W. Smith, Ph.D.

Exercise Science Curriculum Committee:

Stamatis Agiovlasitis — Digitally signed by Stamatis Agiovlasitis Date: 2022.01.12 10:37:52 -06'00'

Stamatis Agiovlasitis, Ph.D.

Harish Chander — Digitally signed by Harish Chander Date: 2022.01.12 00:57:29 -06'00'

Harish Chander, Ph.D.

Chih-Chia Chen — Digitally signed by Chih-Chia Chen Date: 2022.01.12 11:02:16 -06'00'

Chih-Chia Chen, Ph.D.

Zachary Gillen — Digitally signed by Zachary Gillen Date: 2022.01.11 23:07:39 -06'00'

Zachary Gillen, Ph.D.

Erin M. Grant — Digitally signed by Erin M. Grant Date: 2022.01.12 16:16:07 -06'00'

Erin Grant-Butler

Megan Holmes — Digitally signed by Megan Holmes DN: cn=Megan Holmes, o=Mississippi State University, ou=Department of Kinesiology, email=mholmes@colled.msstate.edu, c=US Date: 2022.01.12 10:33:40 -06'00'

Megan Holmes, Ph.D.

LeeAnn Joe — Digitally signed by LeeAnn Joe Date: 2022.01.11 22:09:59 -06'00'

LeeAnn Joe

Adam C. Knight, PhD — Digitally signed by Adam C. Knight, PhD DN: cn=Adam C. Knight, PhD, o=Mississippi State University, ou=Department of Kinesiology, email=ack24@msstate.edu, c=US Date: 2022.01.11 22:35:55 -06'00'

Adam Knight, Ph.D.

John Lamberth, Ph.D.

zhujun pan — Digitally signed by zhujun pan Date: 2022.01.12 06:47:57 -06'00'

Zhujun Pan, Ph.D.

JohnEric W. Smith, PhD — Digitally signed by JohnEric W. Smith, PhD Date: 2022.01.11 21:41:09 -06'00'

JohnEric Smith, Ph.D.

Benjamin Wax, Ph.D.

Holly G. Wiley, Ph.D — Digitally signed by Holly G. Wiley, Ph.D Date: 2022.01.12 14:17:12 -06'00'

Holly Wiley

MISSISSIPPI STATE UNIVERSITY

DEPARTMENT OF KINESIOLOGY
P.O. Box 6186
216 McCarthy Gym
Mississippi State, MS 39762
P. 662.325.2963
F. 662.325.4525
www.kinesiology.msstate.edu

October 5th, 2021

Dr. Stanley P. Brown
Head, Department of Kinesiology

Dear Dr. Brown:

The curriculum committee of the Division of Sport Studies met to discuss the following:

1. Allow the School of Human Sciences to include PE 3533 (Coaching Sports) as a focus area course in the Human Development and Family Science Program.

Many of these students are already taking this course, so it is not anticipated that the addition of PE 3533 will increase the Department of Kinesiology's burden or substantially add to the number of students in the course.

Sincerely,

Dr. Brad Vickers
Sport Studies Division Coordinator
Department of Kinesiology
Mississippi State University

Sport Studies Curriculum Committee:
Dr. Harish Chander — Harish Chander Digitally signed by Harish Chander Date: 2021.10.05 10:28:21 +05'00'
Dr. JJ Chen
Dr. Younghan Lee — Younghan Lee
Dr. Zhujun Pan — Zhujun Pan
Mr. Matthew Rye
Dr. Brad Vickers
Dr. Holly Wiley — Holly G. Wiley
Dr. Ben Wax
Dr. Gregg Twietmeyer
Dr. Matthew Zimmerman
Dr. Soyun Lim — Lim Soyoun

MISSISSIPPI STATE UNIVERSITY

COLLEGE OF ARTS & SCIENCES
DEPARTMENT OF BIOLOGICAL SCIENCES

P.O. Box GY
295 E Lee Blvd
Mississippi State, MS 39762

P. 662.325.3120
F. 662.325.7939
www.biology.msstate.edu

Julie C. Parker, Ph.D., CCLS
HDFS Program Leader
MSEI Graduate Coordinator
Human Development and Family Science
Mississippi State, MS 39762

January 25, 2022

Dear Dr. Parker,

I am writing this letter in support of the Human Development and Family Science program modification. The requirement for including BIO 1004 (Anatomy and Physiology) in this program is not a problem for us at all. We offer this course each spring with an enrollment in excess of 200. Based on the current enrollment of this class and your projections for future need, we anticipate no difficulties in being able to accommodate your students.

Biological Sciences supports this substantive addition to the opportunities offered in your department and we are happy to be of any assistance with the curriculum moving forwards.

Sincerely,

Angus L. Dawe, Ph.D.
Department Head &
Dr. Donald L. Hall Distinguished Professor of Biology
Department of Biological Sciences

dawe@biology.msstate.edu *662.325.7577* *217 Harned Hall*

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:** Electrical & Computer Engineering

Contact Person: Jean Mohammadi-Aragh **Mail Stop:** 9571 **E-mail:** jean@ece.msstate.edu

Nature of Change: revise circuits/electronics sequence
Date Initiated: 12/21/21 **Effective Date:** Fall 2022

Current Degree Program Name: Bachelor of Science in Computer Engineering

Major: Computer Engineering **Concentration:**

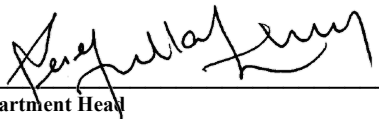
New Degree Program Name:

Major: **Concentration:**

Summary of Proposed Changes:

The changes proposed are as follows:

1. Update the GPA requirements for CPE
2. Replace CSE 3324 Distributed Client Server Programming with a 3-hr professional enrichment elective
3. Add one credit hour to ECE 4723 Embedded Systems to create ECE 4724 Embedded Systems.
4. Remove ECE 4263 VLSI as an alternative to Embedded Systems course.

Approved:	**Date:**
	12/21/21
Department Head	
	12/22/21
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	

PROPOSAL FOR THE MODIFICATION OF THE
B.S. IN COMPUTER ENGINEEIRNG

1. CATALOG DESCRIPTION

See table below.

2. CURRICULUM OUTLINE

The changes proposed are as follows:

1. Update the GPA requirements for CPE
2. Replace CSE 3324 Distributed Client Server Programming with a 3-hr professional enrichment elective
3. Add one credit hour to ECE 4723 Embedded Systems to create ECE 4724 Embedded Systems.

Table 1. Comparison of Current CPE Degree and Proposed CPE Degree Programs

CURRENT Degree Description	PROPOSED Degree Description
Degree: Bachelor of Science in Computer Engineering Major: Computer Engineering Concentration: N/A	Degree: Bachelor of Science in Computer Engineering Major: Computer Engineering Concentration:
Alumni, employers, faculty and students participate in a process used to develop educational objectives for the undergraduate programs in Electrical Engineering and Computer Engineering. Within a few years of graduation, program graduates completing the baccalaureate degree in Electrical or Computer Engineering will: • Be recognized by their peers as fundamentally sound in the application of mathematics, science, computing, and engineering. • Be engaged in the practice of Electrical or Computer Engineering as innovative problem solvers with a strong work ethic, by identifying and implementing solutions using the proper tools, practical approaches, and flexible thinking. • Be productive and demonstrate leadership in the practice of Electrical or Computer Engineering, both individually and within multidisciplinary teams, using effective oral and written communication skills when working with peers, supervisors, and the public. • Be responsible in the practice of Electrical or Computer Engineering, relying on sound engineering ethics, a commitment to lifelong learning and a genuine concern for society and the environment.	Alumni, employers, faculty and students participate in a process used to develop educational objectives for the undergraduate programs in Electrical Engineering and Computer Engineering. Within a few years of graduation, program graduates completing the baccalaureate degree in Electrical or Computer Engineering will: • Be recognized by their peers as fundamentally sound in the application of mathematics, science, computing, and engineering. • Be engaged in the practice of Electrical or Computer Engineering as innovative problem solvers with a strong work ethic, by identifying and implementing solutions using the proper tools, practical approaches, and flexible thinking. • Be productive and demonstrate leadership in the practice of Electrical or Computer Engineering, both individually and within multidisciplinary teams, using effective oral and written communication skills when working with peers, supervisors, and the public. • Be responsible in the practice of Electrical or Computer Engineering, relying on sound engineering ethics, a commitment to lifelong learning and a genuine concern for society and the environment.

With the origin of the modern computer dating back to the late 1940's and the growth of computer hardware fueled by the availability of digital integrated circuits starting in the late 1960's, computer engineers have enjoyed a pivotal role in technology that now permeates our entire society. Whether the end product is an integrated circuit, a system of networked embedded computers, or any system that relies on digital hardware or computer software, its development requires the skills of a computer engineer. While computing systems include both hardware and software, it is the optimal combination of these components that is the unique realm of the computer engineer. Today, computer engineers are a driving force in the technological and economic development of the digital age. The curriculum requirements for computer engineering are built around a substantial engineering core curriculum and required courses in electrical engineering and computer science. The requirements in mathematics, the basic sciences, and engineering sciences provide the breadth of exposure required for all engineering disciplines. Basic electrical engineering requirements include circuit theory, electronics and digital devices which are supplemented by upper-level courses in computer architecture, and computer aided design of digital systems. Basic computer science courses include a coordinated sequence providing fundamental knowledge in data structures, algorithms, object oriented programming, software engineering, real-time application and software development tools. These courses are developed across multiple platforms and are based on the Python and Java language. Upper-level courses in data communications and computer networks, algorithms and operating systems are also provided. Students wishing to gain depth of coverage in communications, parallel computing, *VLSI,* embedded systems or signal processing can achieve this with the availability of technical electives selected from an approved list or in consultation with a faculty advisor. Required courses in communications skills, social sciences and humanities provide studies in non-technical areas that are traditional in a broad-based education. A capstone senior design course requires students to apply newfound knowledge and explore entrepreneurship. Students research and identify a problem and work in teams applying a combination of hardware and software to develop a solution. Critical and Final Design Reviews enable students to develop their professional presentation skills. Students expecting to graduate from Mississippi State University with a bachelor of science degree in computer engineering, in addition to satisfactorily completing the CPE curriculum requirements, must meet the following minimum GPA requirements for graduation:	With the origin of the modern computer dating back to the late 1940's and the growth of computer hardware fueled by the availability of digital integrated circuits starting in the late 1960's, computer engineers have enjoyed a pivotal role in technology that now permeates our entire society. Whether the end product is an integrated circuit, a system of networked embedded computers, or any system that relies on digital hardware or computer software, its development requires the skills of a computer engineer. While computing systems include both hardware and software, it is the optimal combination of these components that is the unique realm of the computer engineer. Today, computer engineers are a driving force in the technological and economic development of the digital age. The curriculum requirements for computer engineering are built around a substantial engineering core curriculum and required courses in electrical engineering and computer science. The requirements in mathematics, the basic sciences, and engineering sciences provide the breadth of exposure required for all engineering disciplines. Basic electrical engineering requirements include circuit theory, electronics and digital devices which are supplemented by upper-level courses in computer architecture, and computer aided design of digital systems. Basic computer science courses include a coordinated sequence providing fundamental knowledge in data structures, algorithms, object oriented programming, software engineering, real-time application and software development tools. These courses are developed across multiple platforms and are based on the Python and Java language. Upper-level courses in data communications and computer networks, algorithms and operating systems are also provided. Students wishing to gain depth of coverage in communications, parallel computing, embedded systems or signal processing can achieve this with the availability of technical electives selected from an approved list or in consultation with a faculty advisor. Required courses in communications skills, social sciences and humanities provide studies in non-technical areas that are traditional in a broad-based education. A capstone senior design course requires students to apply newfound knowledge and explore entrepreneurship. Students research and identify a problem and work in teams applying a combination of hardware and software to develop a solution. Critical and Final Design Reviews enable students to develop their professional presentation skills. Students expecting to graduate from Mississippi State University with a bachelor of science degree in computer engineering, in addition to satisfactorily completing the CPE curriculum requirements, must meet the following minimum GPA requirements for graduation:

• make an overall C average on all hours scheduled and rescheduled at all institutions attended, including MSU (2.00 or better cumulative GPA) • make a C average on all hours scheduled and rescheduled at MSU (2.00 or better MSU GPA) • *earn at least a 2.5/4.0 average on all hours with ECE or CSE course prefixes scheduled and rescheduled at all institutions attended, including MSU* The computer engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. This program is offered through joint efforts of faculty in the Department of Electrical and Computer Engineering and the Department of Computer Science and Engineering.	• make an overall C average on all hours scheduled and rescheduled at all institutions attended, including MSU (2.00 or better cumulative GPA) • make a C average on all hours scheduled and rescheduled at MSU (2.00 or better MSU GPA) • **earn at least a 2.00 cumulative grade point average on all courses scheduled and rescheduled (average on all attempts) at MSU that are applied toward meeting degree requirements** • **earn at least a 2.5/4.0 average on all hours with ECE or CSE course prefixes at all institutions attended, including MSU, that are applied toward meeting degree requirements** The computer engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. This program is offered through joint efforts of faculty in the Department of Electrical and Computer Engineering and the Department of Computer Science and Engineering.

CURRENT CURRICULUM OUTLINE	Required Hours	PROPOSED CURRICULUM OUTLINE	Required Hours
EN 1103 English Comp I or EN 1104 Accelerated Comp I EN 1113 English Comp II or EN 1173 Accelerated Comp II	6	EN 1103 English Comp I or EN 1104 Accelerated Comp I EN 1113 English Comp II or EN 1173 Accelerated Comp II	6
Fine Arts: see General Education courses	3	Fine Arts: see General Education courses	3
Natural Sciences see Major Core		Natural Sciences see Major Core	
Math see Major Core		Math see Major Core	
Humanities see General Education courses	6	Humanities see General Education courses	6
Social/Behavioral Sciences see General Education courses	6	Social/Behavioral Sciences see General Education courses	6
Major Core Courses Math and Basic Science (31h) MA 1713 Calculus I MA 1723 Calculus II	 3 3	Major Core Courses Math and Basic Science (31h) MA 1713 Calculus I MA 1723 Calculus II	 3 3

MA 2733 Calculus III	3	MA 2733 Calculus III	3
MA 2743 Calculus IV	3	MA 2743 Calculus IV	3
MA 3113 Introduction to Linear Algebra	3	MA 3113 Introduction to Linear Algebra	3
MA 3253 Differential Equations I	3	MA 3253 Differential Equations I	3
IE 4613 Engineering Statistics I	3	IE 4613 Engineering Statistics I	3
CH 1213 Chemistry I	3	CH 1213 Chemistry I	3
CH 1211 Investigations in Chemistry I	1	CH 1211 Investigations in Chemistry I	1
PH 2213 Physics I	3	PH 2213 Physics I	3
PH 2223 Physics II	3	PH 2223 Physics II	3
Engineering Topics (70h)		Engineering Topics (70h)	
CSE 1284 Introduction to Computer Programming	4	CSE 1284 Introduction to Computer Programming	4
CSE 1384 Intermediate Computer Programming	4	CSE 1384 Intermediate Computer Programming	4
CSE 2383 Data Structures and Analysis of Algorithms	3	CSE 2383 Data Structures and Analysis of Algorithms	3
CSE 2813 Discrete Structures	3	CSE 2813 Discrete Structures	3
CSE 3324 Distributed Client/Server Programming	*4*	CSE 4733 Operating Systems I	3
CSE 4733 Operating Systems I	3	CSE 4833 Intro Analysis of Algorithms	3
CSE 4833 Intro Analysis of Algorithms	3	ECE 1013 Introduction to ECE Design I	3
ECE 1013 Introduction to ECE Design I	3	ECE 1022 Introduction to ECE Design II	2
ECE 1022 Introduction to ECE Design II	2	ECE 3423 Circuits I	3
ECE 3423 Circuits I	3	ECE 3421 Circuits I Lab	1
ECE 3421 Circuits I Lab	1	ECE 3433 Circuits II	3
ECE 3433 Circuits II	3	ECE 3244 Electronics I	4
ECE 3244 Electronics I	4	ECE 3443 Signals and Systems	3
ECE 3443 Signals and Systems	3	ECE 3714 Digital Devices and Logic Design	4
ECE 3714 Digital Devices and Logic Design	4	ECE 3724 Microprocessors	4
ECE 3724 Microprocessors	4	**ECE 4724 Embedded Systems**	**4**
ECE 4723 Embedded Systems or ECE 4263 Principles of VLSI Design	*3*	ECE 4532 CPE Design I	2
		ECE 4542 CPE Design II	2
		ECE 4713 Computer Architecture	3
ECE 4532 CPE Design I	2	ECE 4743 Digital System Design	3
ECE 4542 CPE Design II	2	ECE 4833 Data Communication and Computer Networks	3
ECE 4713 Computer Architecture	3	CPE technical electives (6h)	6
ECE 4743 Digital System Design	3	**Professional Enrichment elective (3h)**	**3**
ECE 4833 Data Communication and Computer Networks	3		
CPE technical electives (6h)	6	Oral Communication Requirement Fulfilled in ECE 1013, ECE 1022, ECE 4532, ECE 4542, and GE 3513	
Oral Communication Requirement Fulfilled in ECE 1013, ECE 1022, ECE 4532, ECE 4542, and GE 3513		Writing Requirement GE 3513 Technical Writing	3
Writing Requirement GE 3513 Technical Writing	3	Computer Literacy Fulfilled in Engineering Topics courses	
Computer Literacy Fulfilled in Engineering Topics courses			
Concentration Courses		Concentration Courses	
Total Hours	128	Total Hours	128

3. JUSTIFICATION AND STUDENT LEARNING OUTCOMES

The degree program will require the same number of credit hours (128 total credit hours) with these changes, but the new format will allow us to reorganize topics to be consistent with current trends. Further, the addition of a professional enrichment elective to the CPE program, similar to what we have in place for our EE program, will allow students greater flexibility when completing their degree.

1. **CPE Degree Program GPA Updates:** A degree program change initiated on Feb 1, 2018 and discussed at the March 23, 2018 UCCC meeting modified the CPE degree program GPA requirements. Prior to the change, CPE had four requirements: Cumulative GPA, MSU GPA, MSU Degree Program GPA, and Engineering Topics GPA.
    a. The change removed the **MSU Degree Program GPA** requirement, which we have since learned is required by EOP 21. The MSU Degree Program GPA must be included in the list of GPA requirements to clearly state all GPA requirements and avoid student confusion. This degree modification will correct that omission.
    b. The change modified the **Engineering Topics GPA** requirement by increasing the GPA requirement from a 2.0 to a 2.5. However, the faculty intent was to simultaneously strike "scheduled and rescheduled" from the requirement. During advising and graduation audits, we realized the original degree modification did not strike that language. After a review of historical meeting minutes, the ECE Undergraduate Committee reviewed this concern and reaffirmed the original intent of the GPA modification. The ECE faculty voted to reaffirm the recommendation to strike the "scheduled and rescheduled" in the Engineering Topics GPA requirements and to specify that the 2.5 GPA requirement threshold apply only to ECE and CSE courses used in a student's final program of study. The change is "earn at least a 2.5/4.0 average on all hours with ECE or CSE course prefixes ~~scheduled and rescheduled~~ at all institutions attended, including MSU, that are applied toward meeting degree requirements." This modification is to ensure the 2.5 Engineering Topics GPA requirement is consistent with the original intention of the ECE faculty. If applied to all courses scheduled and rescheduled, the faculty view a threshold of 2.5 as excessive.
2. **Replace CSE 3324 DCSP with a 3-hour professional enrichment elective.** The CSE Department initiated a degree modification for the CS program in March 2020 and deleted CSE 3324 because "the course has outlived its relevancy in the technical landscape." The ECE Department is replacing CSE 3324 with a professional enrichment elective. A Professional Enrichment Elective is similar to a technical elective but allows more flexibility for students to pursue options relevant to their individual career goals. Currently our other degree program, EE, has Professional Enrichment Electives, but the CPE program does not. (For more information about Professional Enrichment, see definitions here: https://www.ece.msstate.edu/academics/undergraduate/electrical-engineering-undergraduate-program/professional-enrichment-elective/)

3. **Add one credit hour to ECE 4723 Embedded Systems to create ECE 4724 Embedded Systems.** The CSE 3324 change replaces a four-credit hour course with a three-credit hour professional enrichment elective. After a review of the entire CPE degree program, the ECE faculty voted unanimously to add the credit hour to Embedded Systems. This will allow for an additional hour of lecture that will support incorporating any key topics that need to be included as a result of deleting the prerequisite course CSE 3324 and replacing it with a professional enrichment elective (see item 2 above).
4. **Remove ECE4263 VLSI as an alternative course to ECE 4723 (proposed 4724).** VLSI has outlived its relevancy and has not been taught in several years.

As a result of this degree program modification, there are no changes to the student learning outcomes. The CPE student learning outcomes are as follows:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

- Will this program change meet local, state, regional, and national educational and cultural needs? **Yes**
- Will this program change result in duplication in the System? **No**
- Will this program change/advance student diversity within the discipline? **No**
- Will this program change result in an increase in the potential placement of graduates in MS, the Southeast, and the U.S.? **No**
- Will this program change result in an increase in the potential salaries of graduates in MS, the Southeast, and the U.S.? **No**

4. SUPPORT

See the attached letter from the ECE Undergraduate Committee. Changes in this degree program were discussed multiple times throughout the 2020-2021 academic year. Changes were recommended by the

ECE Undergraduate Committee by unanimous vote in their March 22, 2021 meeting and approved by a vote of the ECE faculty on March 26, 2021.

See letter of support from CSE Department.

5. PROPOSED 4-LETTER ABBREVIATION

No changes

6. EFFECTIVE DATE

Fall 2022

MISSISSIPPI STATE UNIVERSITY™
JAMES WORTH BAGLEY COLLEGE OF ENGINEERING

DEPARTMENT OF
ELECTRICAL AND COMPUTER ENGINEERING
Undergraduate Program Committee

March 26, 2021

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

FROM: Undergraduate Program Committee, Department of Electrical & Computer Engineering

RE: EE and CPE Degree Program Modifications

The CPE and EE degree program modifications submitted herein, including accompanying course revisions, were unanimously recommended by the ECE Undergraduate Committee on 3/22/2021 and approved by final vote of the ECE faculty on 3/26/2021.

Dr John Ball
Digitally signed by Dr John Ball
DN: cn=Dr John Ball, o=MSU, ou=ECE, email=jeball@ece.msstate.edu, c=US
Date: 2021.03.23 10:51:35 -05'00'

John Ball
ECE Undergraduate Committee Chair

Jean Mohammadi-Aragh
ECE Undergraduate Committee Vice-Chair

J. Patrick Donohoe
Digitally signed by J. Patrick Donohoe
DN: cn=J. Patrick Donohoe, o=Mississippi State University, ou=Department of Electrical and Computer Engineering, email=donohoe@ece.msstate.edu, c=US
Date: 2021.03.23 11:32:09 -05'00'

Pat Donohoe
Professor and Paul B. Jacob Chair

Digitally signed by Randolph F. Follett
Date: 2021.03.23 15:37:08 -05'00'

Randy Follett
Associate Professor

Ryan Green
Assistant Professor

Ali Cafer Gurbuz
Digitally signed by Ali Cafer Gurbuz
Date: 2021.03.23 15:41:03 -05'00'

Ali Gurbuz
Assistant Professor

Umar Iqbal
Digitally signed by Umar Iqbal
DN: cn=Umar Iqbal, o=Mississippi State University, ou=Electrical & Computer Engineering, email=umar@ece.msstate.edu, c=US
Date: 2021.03.23 15:48:47 -05'00'

Umar Iqbal
Assistant Clinical Professor

Masoud Karimi
Digitally signed by Masoud Karimi
Date: 2021.03.23 22:24:12 -05'00'

Masoud Karimi-Ghartemani
Associate Professor

Khalid Miah
Digitally signed by Khalid Miah
Date: 2021.03.24 08:45:10 -05'00'

Khalid Miah
Assistant Clinical Professor

Jane N Moorhead
Digitally signed by Jane N Moorhead
Date: 2021.03.25 15:52:54 -05'00'

Jane Moorhead
Instructor

MISSISSIPPI STATE UNIVERSITY
JAMES WORTH BAGLEY COLLEGE OF ENGINEERING

DEPARTMENT OF
COMPUTER SCIENCE & ENGINEERING

Andy D. Perkins, Ph.D.
Professor and Associate Department Head
perkins@cse.msstate.edu

November 16, 2021

Dear Dr. Mohammadi-Aragh:

The Department of Computer Science and Engineering supports the proposed changes to the CPE degree. Specifically, the faculty approves:

1. Replacing CSE 3324 Distributed Client/Server Programming with a 3-hour professional enrichment elective,
2. Adding one credit hour to ECE 4723 Embedded Systems, to create ECE 4724, and
3. Updating the GPA requirements for the degree.

Sincerely,

Andy D. Perkins, PhD
Professor and Associate Department Head

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:** Electrical & Computer Engineering

Contact Person: Jean Mohammadi-Aragh **Mail Stop:** 9571 **E-mail:** jean@ece.msstate.edu

Nature of Change: add distance learning to an existing program

Date Initiated: 12/21/21 **Effective Date:** Fall 2022

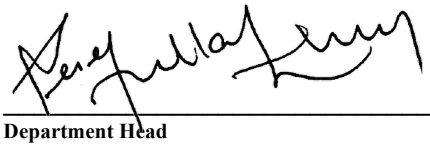
Current Degree Program Name: Bachelor of Science in Electrical Engineering

Major: Electrical Engineering **Concentration:** Electrical Engineering, Power and Energy Engineering

Major: no change **Concentration:** no change

Summary of Proposed Changes:

Add distance learning to existing degree

Approved:	**Date:**
	12/21/21
Department Head	
	12/22/21
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	

PROPOSAL FOR THE MODIFICATION OF THE
B.S. IN ELECTRICAL ENGINEEIRNG

1. CATALOG DESCRIPTION

Alumni, employers, faculty and students participate in a process used to develop educational objectives for the undergraduate programs in Electrical Engineering and Computer Engineering. Within a few years of graduation, program graduates completing the baccalaureate degree in Electrical or Computer Engineering will:

- Be recognized by their peers as fundamentally sound in the application of mathematics, science, computing, and engineering.
- Be engaged in the practice of Electrical or Computer Engineering as innovative problem solvers with a strong work ethic, by identifying and implementing solutions using the proper tools, practical approaches, and flexible thinking.
- Be productive and demonstrate leadership in the practice of Electrical or Computer Engineering, both individually and within multidisciplinary teams, using effective oral and written communication skills when working with peers, supervisors, and the public.
- Be responsible in the practice of Electrical or Computer Engineering, relying on sound engineering ethics, a commitment to lifelong learning and a genuine concern for society and the environment.

The electrical engineer is a principal contributor to the modern technological age in which we live today. Following in the footsteps of inventors such as Thomas Edison and Alexander Graham Bell, the electrical engineer is developing technology that improves the quality of life. Developments in microelectronics, telecommunications, and power systems have had a profound effect on each of us. Electrical engineers have affected all segments of our society such as transportation, medicine, and the entertainment industry, to name only a few. Indeed, the electrical engineer has principally been responsible for the advent of the computer age in which we live today as well as the computer's miniaturization and rapid expansion in computational power.

The curriculum in electrical engineering has a foundation based on the principles of the electrical and physical sciences and uses mathematics as a common language to facilitate the solution of engineering problems. The core curriculum consists of a sequence of courses in digital devices, circuits and electronics, electromagnetic field theory, and modern energy conversion. In the senior year, students have the opportunity to take additional course work in one or more technical areas that include: telecommunications, electromagnetics, power systems, high voltage, feedback control systems, microelectronics, signal processing, and computer systems. Supporting course work outside electrical engineering consists of a strong background in mathematics, physical sciences, computer programming, social sciences, fine arts, humanities, and personal communication skills. Computers are used extensively throughout the curriculum, and students are expected to become proficient in higher-order programming languages and several application software tools. Although the concept of design is stressed throughout the program so as to emphasize the problem-solving skills of the engineer, the senior year includes a capstone design experience where much of the previous study is culminated.

Through this two-semester design course sequence, students are required to integrate design and analytical problem-solving skills together with communication skills in a team environment.
Students expecting to graduate from Mississippi State University with a bachelor of science degree in electrical engineering, in addition to satisfactorily completing the EE curriculum requirements, must meet the following minimum GPA requirements for graduation:

- make an overall C average on all hours scheduled and rescheduled at all institutions attended, including MSU (2.00 or better cumulative GPA)
- make a C average on all hours scheduled and rescheduled at MSU (2.00 or better MSU GPA)
- earn at least a 2.00 cumulative grade point average on all courses scheduled and rescheduled (average on all attempts) at MSU that are applied toward meeting degree requirements
- earn at least a 2.5/4.0 average on all hours with ECE or CSE course prefixes at all institutions attended, including MSU, that are applied toward meeting degree requirements

The electrical engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

For a list of online tuition, instructional support, and other distance fees, please see the Controller's web site at: https://www.controller.msstate.edu/accountservices/tuition/

2. CURRICULUM OUTLINE

Our Electrical Engineering program has two concentrations: Electrical Engineering and Power and Energy Engineering. The curriculum for both is very similar but key differences will be addressed.

Extent of the degree that is offered through distance learning:
For the Electrical Engineering concentration, as of this submission, 100 out of 128 hours required for the degree are approved and offered via distance; 78% of the program can be completed via distance. For the Power and Energy Engineering concentration, as of this submission, 94 out of 128 hours required for the degree are approved and offered via distance; 73% of the program can be completed via distance.

For both concentrations, by Fall 2022, we anticipate **115 out of 128 total hours (~90%)** required for both degree concentrations will be approved and offered through MSU's distance education offerings. The remaining **13 hours** will currently need to be completed through MSU's Starkville, Meridian, or Gulf Coast campus offerings, or transferred to MSU from another institution.

Details of courses currently offered / planned to be offered as face-to-face only:
For both concentrations, the courses (13 hours) that are either not currently approved for MSU's distance offerings (and not pending approval) **or** are not offered online frequently enough to meet our undergraduate student needs are listed as follows:

- CH 1211 Chemistry Lab
- CH 1213 Chemistry I
- PH 2213 Physics I
- PH 2223 Physics II
- MA 2743 Calculus IV

After consulting with the departments associated with these courses, we anticipate 10 hours (CH and PH courses) will remain face-to-face for the foreseeable future. It is possible MA 2743 may become a distance-approved course. These courses are the 13 hours that will need to be completed through MSU's Starkville, Meridian, or Gulf Coast campus offerings, or transferred to MSU from another institution.

All 13 hours are widely available on MSU campuses and at Mississippi community colleges and other institutions of higher learning throughout the country. We do not anticipate any hardships for students related to access for these 13 credit-hours.

Details of courses currently offered as face-to-face but planned to be offered via distance:

For both concentrations, within our Department, there are currently 15 hours of ECE courses required for the B.S. in Electrical Engineering that are pending distance approval in the UCCC workflow. Details are as follows:

- ECE 3323 Electromagnetics II – passed contingent at Sept 3, 2021 meeting; contingencises have been addressed and are pending final approval
- ECE 3614 Fundamentals of Energy Systems – in UCCC workflow for distance approval
- ECE 3714 Digital Devices and Logic Design – in UCCC workflow for distance approval
- ECE 3724 Microprocessors – in UCCC workflow for distance approval

For the Power and Energy concentration only, there are 6 additional required hours that are not approved for distance at the 4000-level (but are approved and taught via distance at the 6000-level). Due to prerequisites requirements, newly admitted distance EE students would not be eligible to enroll in these courses until Spring 2023 at the earliest. These courses will be submitted into the UCCC workflow by the end of Spring 2022, which would allow ample time for the courses to become available for students.

- ECE 4613 Power Transmission Systems – approved at 6000-level for distance; will submit for 4000-level distance approval in Spring 2022
- ECE 4633 Power Distribution Systems – approved at 6000-level for distance; will submit for 4000-level distance approval in Spring 2022

No changes are proposed to the curriculum. The current curriculum tables are provided below for reference.

CURRENT Degree Description	PROPOSED Degree Description
Degree: Bachelor of Science in Electrical Engineering Major: Electrical Engineering Concentration: Electrical Engineering	Degree: Bachelor of Science in Electrical Engineering Major: Electrical Engineering Concentration: Electrical Engineering
Alumni, employers, faculty and students participate in a process used to develop educational objectives for the undergraduate programs in Electrical Engineering and Computer Engineering. Within a few years of graduation, program graduates completing the baccalaureate degree in Electrical or Computer Engineering will: • Be recognized by their peers as fundamentally sound in the application of mathematics, science, computing, and engineering.	Alumni, employers, faculty and students participate in a process used to develop educational objectives for the undergraduate programs in Electrical Engineering and Computer Engineering. Within a few years of graduation, program graduates completing the baccalaureate degree in Electrical or Computer Engineering will: • Be recognized by their peers as fundamentally sound in the application of mathematics, science, computing, and engineering.

- Be engaged in the practice of Electrical or Computer Engineering as innovative problem solvers with a strong work ethic, by identifying and implementing solutions using the proper tools, practical approaches, and flexible thinking.
- Be productive and demonstrate leadership in the practice of Electrical or Computer Engineering, both individually and within multidisciplinary teams, using effective oral and written communication skills when working with peers, supervisors, and the public.
- Be responsible in the practice of Electrical or Computer Engineering, relying on sound engineering ethics, a commitment to lifelong learning and a genuine concern for society and the environment.

The electrical engineer is a principal contributor to the modern technological age in which we live today. Following in the footsteps of inventors such as Thomas Edison and Alexander Graham Bell, the electrical engineer is developing technology that improves the quality of life. Developments in microelectronics, telecommunications, and power systems have had a profound effect on each of us. Electrical engineers have affected all segments of our society such as transportation, medicine, and the entertainment industry, to name only a few. Indeed, the electrical engineer has principally been responsible for the advent of the computer age in which we live today as well as the computer's miniaturization and rapid expansion in computational power.

The curriculum in electrical engineering has a foundation based on the principles of the electrical and physical sciences and uses mathematics as a common language to facilitate the solution of engineering problems. The core curriculum consists of a sequence of courses in digital devices, circuits and electronics, electromagnetic field theory, and modern energy conversion. In the senior year, students have the opportunity to take additional course work in one or more technical areas that include: telecommunications, electromagnetics, power systems, high voltage, feedback control systems, microelectronics, signal processing, and computer systems. Supporting course work outside electrical engineering consists of a strong background in mathematics, physical sciences, computer programming, social sciences, fine arts, humanities, and personal communication skills. Computers are used extensively throughout the curriculum, and students are expected to become proficient in higher-order programming languages and several application software tools. Although the concept of design is stressed throughout the program so as to emphasize the problem-solving skills of the engineer, the senior year includes a capstone design experience where much of the previous study is

- Be engaged in the practice of Electrical or Computer Engineering as innovative problem solvers with a strong work ethic, by identifying and implementing solutions using the proper tools, practical approaches, and flexible thinking.
- Be productive and demonstrate leadership in the practice of Electrical or Computer Engineering, both individually and within multidisciplinary teams, using effective oral and written communication skills when working with peers, supervisors, and the public.
- Be responsible in the practice of Electrical or Computer Engineering, relying on sound engineering ethics, a commitment to lifelong learning and a genuine concern for society and the environment.

The electrical engineer is a principal contributor to the modern technological age in which we live today. Following in the footsteps of inventors such as Thomas Edison and Alexander Graham Bell, the electrical engineer is developing technology that improves the quality of life. Developments in microelectronics, telecommunications, and power systems have had a profound effect on each of us. Electrical engineers have affected all segments of our society such as transportation, medicine, and the entertainment industry, to name only a few. Indeed, the electrical engineer has principally been responsible for the advent of the computer age in which we live today as well as the computer's miniaturization and rapid expansion in computational power.

The curriculum in electrical engineering has a foundation based on the principles of the electrical and physical sciences and uses mathematics as a common language to facilitate the solution of engineering problems. The core curriculum consists of a sequence of courses in digital devices, circuits and electronics, electromagnetic field theory, and modern energy conversion. In the senior year, students have the opportunity to take additional course work in one or more technical areas that include: telecommunications, electromagnetics, power systems, high voltage, feedback control systems, microelectronics, signal processing, and computer systems. Supporting course work outside electrical engineering consists of a strong background in mathematics, physical sciences, computer programming, social sciences, fine arts, humanities, and personal communication skills. Computers are used extensively throughout the curriculum, and students are expected to become proficient in higher-order programming languages and several application software tools. Although the concept of design is stressed throughout the program so as to emphasize the problem-solving skills of the engineer, the senior year includes a capstone design experience where much of the previous study is

culminated. Through this two-semester design course sequence, students are required to integrate design and analytical problem-solving skills together with communication skills in a team environment. Students expecting to graduate from Mississippi State University with a bachelor of science degree in electrical engineering, in addition to satisfactorily completing the EE curriculum requirements, must meet the following minimum GPA requirements for graduation: • make an overall C average on all hours scheduled and rescheduled at all institutions attended, including MSU (2.00 or better cumulative GPA) • make a C average on all hours scheduled and rescheduled at MSU (2.00 or better MSU GPA) • earn at least a 2.00 cumulative grade point average on all courses scheduled and rescheduled (average on all attempts) at MSU that are applied toward meeting degree requirements • earn at least a 2.5/4.0 average on all hours with ECE or CSE course prefixes at all institutions attended, including MSU, that are applied toward meeting degree requirements The electrical engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.	culminated. Through this two-semester design course sequence, students are required to integrate design and analytical problem-solving skills together with communication skills in a team environment. Students expecting to graduate from Mississippi State University with a bachelor of science degree in electrical engineering, in addition to satisfactorily completing the EE curriculum requirements, must meet the following minimum GPA requirements for graduation: • make an overall C average on all hours scheduled and rescheduled at all institutions attended, including MSU (2.00 or better cumulative GPA) • make a C average on all hours scheduled and rescheduled at MSU (2.00 or better MSU GPA) • earn at least a 2.00 cumulative grade point average on all courses scheduled and rescheduled (average on all attempts) at MSU that are applied toward meeting degree requirements • earn at least a 2.5/4.0 average on all hours with ECE or CSE course prefixes at all institutions attended, including MSU, that are applied toward meeting degree requirements The electrical engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.
The electrical engineering concentration allows students the flexibility to take a broad range of course in a minimum of two topic areas. Students may take a variety of courses that fit their individual interests in electrical engineering.	The electrical engineering concentration allows students the flexibility to take a broad range of course in a minimum of two topic areas. Students may take a variety of courses that fit their individual interests in electrical engineering.

CURRENT CURRICULUM OUTLINE	Required Hours	PROPOSED CURRICULUM OUTLINE	Required Hours
EN 1103 English Comp I or EN 1104 Expanded English Comp I EN 1113 English Comp II or EN 1173 Accelerated Comp II	6	EN 1103 English Comp I or EN 1104 Expanded English Comp I EN 1113 English Comp II or EN 1173 Accelerated Comp II	6
Fine Arts: see General Education courses	3	Fine Arts: see General Education courses	3
Natural Sciences see Major Core		Natural Sciences see Major Core	
Math see Major Core		Math see Major Core	
Humanities see General Education courses	6	Humanities see General Education courses	6
Social/Behavioral Sciences	6	Social/Behavioral Sciences	6

see General Education courses		see General Education courses	
Major Core Courses		Major Core Courses	
Math and Basic Science (31h)		Math and Basic Science (31h)	
MA 1713 Calculus I	3	MA 1713 Calculus I	3
MA 1723 Calculus II	3	MA 1723 Calculus II	3
MA 2733 Calculus III	3	MA 2733 Calculus III	3
MA 2743 Calculus IV	3	MA 2743 Calculus IV	3
MA 3113 Introduction to Linear Algebra	3	MA 3113 Introduction to Linear Algebra	3
MA 3253 Differential Equations I	3	MA 3253 Differential Equations I	3
IE 4613 Engineering Statistics I	3	IE 4613 Engineering Statistics I	3
CH 1213 Chemistry I	3	CH 1213 Chemistry I	3
CH 1211 Investigations in Chemistry I	1	CH 1211 Investigations in Chemistry I	1
PH 2213 Physics I	3	PH 2213 Physics I	3
PH 2223 Physics II	3	PH 2223 Physics II	3
Engineering Topics (61h)		Engineering Topics (61h)	
CSE 1284 Introduction to Computer Programming	4	CSE 1284 Introduction to Computer Programming	4
CSE 1384 Intermediate Computer Programming	4	CSE 1384 Intermediate Computer Programming	4
CSE 2383 Data Structures and Analysis of Algorithms	3	CSE 2383 Data Structures and Analysis of Algorithms	3
ECE 1013 Introduction to ECE Design I	3	ECE 1013 Introduction to ECE Design I	3
ECE 1022 Introduction to ECE Design II	2	ECE 1022 Introduction to ECE Design II	2
ECE 3423 Circuits I	3	ECE 3423 Circuits I	3
ECE 3421 Circuits I Lab	1	ECE 3421 Circuits I Lab	1
ECE 3433 Circuits II	3	ECE 3433 Circuits II	3
ECE 3244 Electronics I	4	ECE 3244 Electronics I	4
ECE 3443 Signals and Systems	3	ECE 3443 Signals and Systems	3
ECE 3313 Electromagnetics I	3	ECE 3313 Electromagnetics I	3
ECE 3323 Electromagnetics II	3	ECE 3323 Electromagnetics II	3
ECE 3614 Fundamentals of Energy Systems	4	ECE 3614 Fundamentals of Energy Systems	4
ECE 4512 EE Design I	2	ECE 4512 EE Design I	2
ECE 4522 EE Design II	2	ECE 4522 EE Design II	2
ECE 3714 Digital Devices and Logic Design	4	ECE 3714 Digital Devices and Logic Design	4
ECE 3724 Microprocessors	4	ECE 3724 Microprocessors	4
EM 2413 Engineering Mechanics I or ME 3513 Thermodynamics I	3	EM 2413 Engineering Mechanics I or ME 3513 Thermodynamics I	3
Engineering Science elective (3h)	3	Engineering Science elective (3h)	3
Professional Enrichment elective (3h)	3	Professional Enrichment elective (3h)	3
Oral Communication Requirement Fulfilled in ECE 1013, ECE 1022, ECE 4512, ECE 4522, and GE 3513		Oral Communication Requirement Fulfilled in ECE 1013, ECE 1022, ECE 4512, ECE 4522, and GE 3513	
Writing Requirement		Writing Requirement	
GE 3513 Technical Writing	3	GE 3513 Technical Writing	3
Computer Literacy Fulfilled in Engineering Topics courses		Computer Literacy Fulfilled in Engineering Topics courses	

Concentration Courses EE technical electives (see advisor for list of approved elective courses)	12	Concentration Courses EE technical electives (see advisor for list of approved elective courses)	12
Total Hours	128	Total Hours	128

CURRENT Degree Description	PROPOSED Degree Description
Degree: Bachelor of Science in Electrical Engineering Major: Electrical Engineering Concentration: Power and Energy Engineering	Degree: Bachelor of Science in Electrical Engineering Major: Electrical Engineering Concentration: Power and Energy Engineering
Alumni, employers, faculty and students participate in a process used to develop educational objectives for the undergraduate programs in Electrical Engineering and Computer Engineering. Within a few years of graduation, program graduates completing the baccalaureate degree in Electrical or Computer Engineering will: • Be recognized by their peers as fundamentally sound in the application of mathematics, science, computing, and engineering. • Be engaged in the practice of Electrical or Computer Engineering as innovative problem solvers with a strong work ethic, by identifying and implementing solutions using the proper tools, practical approaches, and flexible thinking. • Be productive and demonstrate leadership in the practice of Electrical or Computer Engineering, both individually and within multidisciplinary teams, using effective oral and written communication skills when working with peers, supervisors, and the public. • Be responsible in the practice of Electrical or Computer Engineering, relying on sound engineering ethics, a commitment to lifelong learning and a genuine concern for society and the environment. The electrical engineer is a principal contributor to the modern technological age in which we live today. Following in the footsteps of inventors such as Thomas Edison and Alexander Graham Bell, the electrical engineer is developing technology that improves the quality of life. Developments in microelectronics, telecommunications, and power systems have had a profound effect on each of us. Electrical engineers have affected all segments of our society such as	Alumni, employers, faculty and students participate in a process used to develop educational objectives for the undergraduate programs in Electrical Engineering and Computer Engineering. Within a few years of graduation, program graduates completing the baccalaureate degree in Electrical or Computer Engineering will: • Be recognized by their peers as fundamentally sound in the application of mathematics, science, computing, and engineering. • Be engaged in the practice of Electrical or Computer Engineering as innovative problem solvers with a strong work ethic, by identifying and implementing solutions using the proper tools, practical approaches, and flexible thinking. • Be productive and demonstrate leadership in the practice of Electrical or Computer Engineering, both individually and within multidisciplinary teams, using effective oral and written communication skills when working with peers, supervisors, and the public. • Be responsible in the practice of Electrical or Computer Engineering, relying on sound engineering ethics, a commitment to lifelong learning and a genuine concern for society and the environment. The electrical engineer is a principal contributor to the modern technological age in which we live today. Following in the footsteps of inventors such as Thomas Edison and Alexander Graham Bell, the electrical engineer is developing technology that improves the quality of life. Developments in microelectronics, telecommunications, and power systems have had a profound effect on each of us. Electrical engineers have affected all segments of our society such as

transportation, medicine, and the entertainment industry, to name only a few. Indeed, the electrical engineer has principally been responsible for the advent of the computer age in which we live today as well as the computer's miniaturization and rapid expansion in computational power.

The curriculum in electrical engineering has a foundation based on the principles of the electrical and physical sciences and uses mathematics as a common language to facilitate the solution of engineering problems. The core curriculum consists of a sequence of courses in digital devices, circuits and electronics, electromagnetic field theory, and modern energy conversion. In the senior year, students have the opportunity to take additional course work in one or more technical areas that include: telecommunications, electromagnetics, power systems, high voltage, feedback control systems, microelectronics, signal processing, and computer systems. Supporting course work outside electrical engineering consists of a strong background in mathematics, physical sciences, computer programming, social sciences, fine arts, humanities, and personal communication skills. Computers are used extensively throughout the curriculum, and students are expected to become proficient in higher-order programming languages and several application software tools. Although the concept of design is stressed throughout the program so as to emphasize the problem-solving skills of the engineer, the senior year includes a capstone design experience where much of the previous study is culminated. Through this two-semester design course sequence, students are required to integrate design and analytical problem-solving skills together with communication skills in a team environment.
Students expecting to graduate from Mississippi State University with a bachelor of science degree in electrical engineering, in addition to satisfactorily completing the EE curriculum requirements, must meet the following minimum GPA requirements for graduation:

- make an overall C average on all hours scheduled and rescheduled at all institutions attended, including MSU (2.00 or better cumulative GPA)
- make a C average on all hours scheduled and rescheduled at MSU (2.00 or better MSU GPA)
- earn at least a 2.00 cumulative grade point average on all courses scheduled and rescheduled (average on all attempts) at MSU that are applied toward meeting degree requirements
- earn at least a 2.5/4.0 average on all hours with ECE or CSE course prefixes at all institutions attended, including MSU, that are applied toward meeting degree requirements

transportation, medicine, and the entertainment industry, to name only a few. Indeed, the electrical engineer has principally been responsible for the advent of the computer age in which we live today as well as the computer's miniaturization and rapid expansion in computational power.

The curriculum in electrical engineering has a foundation based on the principles of the electrical and physical sciences and uses mathematics as a common language to facilitate the solution of engineering problems. The core curriculum consists of a sequence of courses in digital devices, circuits and electronics, electromagnetic field theory, and modern energy conversion. In the senior year, students have the opportunity to take additional course work in one or more technical areas that include: telecommunications, electromagnetics, power systems, high voltage, feedback control systems, microelectronics, signal processing, and computer systems. Supporting course work outside electrical engineering consists of a strong background in mathematics, physical sciences, computer programming, social sciences, fine arts, humanities, and personal communication skills. Computers are used extensively throughout the curriculum, and students are expected to become proficient in higher-order programming languages and several application software tools. Although the concept of design is stressed throughout the program so as to emphasize the problem-solving skills of the engineer, the senior year includes a capstone design experience where much of the previous study is culminated. Through this two-semester design course sequence, students are required to integrate design and analytical problem-solving skills together with communication skills in a team environment.
Students expecting to graduate from Mississippi State University with a bachelor of science degree in electrical engineering, in addition to satisfactorily completing the EE curriculum requirements, must meet the following minimum GPA requirements for graduation:

- make an overall C average on all hours scheduled and rescheduled at all institutions attended, including MSU (2.00 or better cumulative GPA)
- make a C average on all hours scheduled and rescheduled at MSU (2.00 or better MSU GPA)
- earn at least a 2.00 cumulative grade point average on all courses scheduled and rescheduled (average on all attempts) at MSU that are applied toward meeting degree requirements
- earn at least a 2.5/4.0 average on all hours with ECE or CSE course prefixes at all institutions attended, including MSU, that are applied toward meeting degree requirements

The electrical engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.		The electrical engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.	
The electrical engineering concentration allows students the flexibility to take a broad range of course in a minimum of two topic areas. Students may take a variety of courses that fit their individual interests in electrical engineering.		The electrical engineering concentration allows students the flexibility to take a broad range of course in a minimum of two topic areas. Students may take a variety of courses that fit their individual interests in electrical engineering.	
CURRENT CURRICULUM OUTLINE	Required Hours	PROPOSED CURRICULUM OUTLINE	Required Hours
EN 1103 English Comp I or EN 1104 Expanded English Comp I EN 1113 English Comp II or EN 1173 Accelerated Comp II	6	EN 1103 English Comp I or EN 1104 Expanded English Comp I EN 1113 English Comp II or EN 1173 Accelerated Comp II	6
Fine Arts: see General Education courses	3	Fine Arts: see General Education courses	3
Natural Sciences see Major Core		Natural Sciences see Major Core	
Math see Major Core		Math see Major Core	
Humanities see General Education courses	6	Humanities see General Education courses	6
Social/Behavioral Sciences see General Education courses	6	Social/Behavioral Sciences see General Education courses	6
Major Core Courses		Major Core Courses	
Math and Basic Science (31h)		Math and Basic Science (31h)	
MA 1713 Calculus I	3	MA 1713 Calculus I	3
MA 1723 Calculus II	3	MA 1723 Calculus II	3
MA 2733 Calculus III	3	MA 2733 Calculus III	3
MA 2743 Calculus IV	3	MA 2743 Calculus IV	3
MA 3113 Introduction to Linear Algebra	3	MA 3113 Introduction to Linear Algebra	3
MA 3253 Differential Equations I	3	MA 3253 Differential Equations I	3
IE 4613 Engineering Statistics I	3	IE 4613 Engineering Statistics I	3
CH 1213 Chemistry I	3	CH 1213 Chemistry I	3
CH 1211 Investigations in Chemistry I	1	CH 1211 Investigations in Chemistry I	1
PH 2213 Physics I	3	PH 2213 Physics I	3
PH 2223 Physics II	3	PH 2223 Physics II	3
Engineering Topics (61h)		Engineering Topics (61h)	
CSE 1284 Introduction to Computer Programming	4	CSE 1284 Introduction to Computer Programming	4

CSE 1384 Intermediate Computer Programming	4	CSE 1384 Intermediate Computer Programming	4
CSE 2383 Data Structures and Analysis of Algorithms	3	CSE 2383 Data Structures and Analysis of Algorithms	3
ECE 1013 Introduction to ECE Design I	3	ECE 1013 Introduction to ECE Design I	3
ECE 1022 Introduction to ECE Design II	2	ECE 1022 Introduction to ECE Design II	2
ECE 3423 Circuits I	3	ECE 3423 Circuits I	3
ECE 3421 Circuits I Lab	1	ECE 3421 Circuits I Lab	1
ECE 3433 Circuits II	3	ECE 3433 Circuits II	3
ECE 3244 Electronics I	4	ECE 3244 Electronics I	4
ECE 3443 Signals and Systems	3	ECE 3443 Signals and Systems	3
ECE 3313 Electromagnetics I	3	ECE 3313 Electromagnetics I	3
ECE 3323 Electromagnetics II	3	ECE 3323 Electromagnetics II	3
ECE 3614 Fundamentals of Energy Systems	4	ECE 3614 Fundamentals of Energy Systems	4
ECE 4512 EE Design I	2	ECE 4512 EE Design I	2
ECE 4522 EE Design II	2	ECE 4522 EE Design II	2
ECE 3714 Digital Devices and Logic Design	4	ECE 3714 Digital Devices and Logic Design	4
ECE 3724 Microprocessors	4	ECE 3724 Microprocessors	4
EM 2413 Engineering Mechanics I or ME 3513 Thermodynamics I	3	EM 2413 Engineering Mechanics I or ME 3513 Thermodynamics I	3
Engineering Science elective (3h)	3	Engineering Science elective (3h)	3
Professional Enrichment elective (3h)	3	Professional Enrichment elective (3h)	3
Oral Communication Requirement Fulfilled in ECE 1013, ECE 1022, ECE 4512, ECE 4522, and GE 3513		Oral Communication Requirement Fulfilled in ECE 1013, ECE 1022, ECE 4512, ECE 4522, and GE 3513	
Writing Requirement GE 3513 Technical Writing	3	Writing Requirement GE 3513 Technical Writing	3
Computer Literacy Fulfilled in Engineering Topics courses		Computer Literacy Fulfilled in Engineering Topics courses	
Concentration Courses		Concentration Courses	
Power and Energy Engineering ECE 4613 Power Transmission Systems ECE 4633 Power Distribution Systems	3 3	Power and Energy Engineering ECE 4613 Power Transmission Systems ECE 4633 Power Distribution Systems	3 3
Power and Energy Electives (6h) Choose from: ECE 4643 Power Systems Relaying & Control ECE 4653 Power Electronics ECE 4663 Insulation Coordination in Electric Power Systems ECE 4673 Fundamentals of High Voltage Engineering (see advisor for list of additional approved elective courses)	6	Power and Energy Electives (6h) Choose from: ECE 4643 Power Systems Relaying & Control ECE 4653 Power Electronics ECE 4663 Insulation Coordination in Electric Power Systems ECE 4673 Fundamentals of High Voltage Engineering (see advisor for list of additional approved elective courses)	6

Total Hours	128	Total Hours	128

3. JUSTIFICATION FOR DISTANCE LEARNING OUTCOMES

Electrical engineering is an important field for a wide range of audiences. Electrical engineers are employed in a variety of industries. We have had numerous inquiries about distance offerings from potential students who have earned a two-year electrical technology or similar degree and are working full-time in industry. They cannot take 2-3 years off from work to complete the requirements for an electrical engineering degree, but not having the degree prevents them from advancing their careers. To some extent, our EE degree program on the MS Gulf Coast campus has addressed this for potential students located on the coast – we offer night classes on the Gulf Coast campus. However, the face-to-face requirement still excludes numerous potential students. An online program will allow those students to fulfill their needs and earn an EE degree.

The ECE faculty are committed to distance education. Numerous ECE faculty have been successfully supporting our well-established online graduate degrees in Electrical and Computer Engineering for over a decade. Current distance courses in ECE include a variety of online learning techniques such as videos with quizzes, synchronous activities, office hours, and other active learning activities. In the Fall 2021 semester, ECE faculty participated in two distance training sessions arranged for the department by BCOE distance education staff. ECE distance classes have received positive student survey results, and we intend to use our proven methods for offering courses for our undergraduate students. The program will be delivered through a mix of synchronous and asynchronous courses recorded via Webex or in the BCOE distance classrooms.

TARGET AUDIENCES

- Regional traditional students who need the option of distance education to complete their degree for various reasons, including taking care of sick parent, needing to work full-time, co-op, or any other reason.
- Non-traditional students who already work in the electrical field and want to complete a degree in the area in which they see a long-term future.
- Non-traditional students who started a degree in electrical engineering at some point, never finished the degree, and have a desire to finish the degree.
- Veterans and military personnel wanting to work in electrical and computer engineering.

4. LEARNING OUTCOMES

As a result of this degree program modification, there are no changes to the student learning outcomes. The EE student learning outcomes are as follows:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

5. EFFECTIVE DATE

Fall 2022

6. CONTACT PERSON

Jean Mohammadi-Aragh, jean@ece.msstate.edu, 662-325-2042

7. LETTER OF SUPPORT

See attached

8. IHL FORM

See attached

MISSISSIPPI STATE UNIVERSITY
JAMES WORTH BAGLEY COLLEGE OF ENGINEERING

DEPARTMENT OF
ELECTRICAL AND COMPUTER ENGINEERING
Undergraduate Program Committee

December 16, 2021

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

FROM: Undergraduate Program Committee, Department of Electrical & Computer Engineering

RE: EE Degree Program Modification – add distance option

During a faculty meeting on August 27, 2021, the Electrical and Computer Engineering faculty voted to request approval to offer the B.S. in Electrical Engineering by distance. Please feel free to contact me if there are any questions or concerns.

Jean Mohammadi-Aragh
Digitally signed by Jean Mohammadi-Aragh
Date: 2021.12.16 10:55:25 -06'00'

Jean Mohammadi-Aragh
Chair, ECE Undergraduate Committee
Assistant Professor

Digitally signed by Randolph F. Follett
Date: 2021.12.16 12:40:43 -06'00'

Randy Follett
Member, ECE Undergraduate Committee
Associate Professor

Ryan B. Green
Digitally signed by Ryan B. Green
Date: 2021.12.16 13:40:18 -06'00'

Ryan Green
Member, ECE Undergraduate Committee
Assistant Professor

Dr. Ali Cafer Gurbuz
Digitally signed by Dr. Ali Cafer Gurbuz
Date: 2021.12.17 14:44:12 -06'00'

Ali Gurbuz
Member, ECE Undergraduate Committee
Assistant Professor

Umar Iqbal
Digitally signed by Umar Iqbal
DN: cn=Umar Iqbal, o=Mississippi State University, ou=Electrical & Computer Engineering, email=umar@ece.msstate.edu, c=US
Date: 2021.12.17 11:45:07 -06'00'

Umar Iqbal
Member, ECE Undergraduate Committee
Assistant Clinical Professor

Jane Moorhead
Digitally signed by Jane Moorhead
DN: cn=Jane Moorhead, o=Mississippi State, ou=ECE, email=jnm15@msstate.edu, c=US
Date: 2021.12.16 11:41:34 -06'00'

Jane Moorhead
Member, ECE Undergraduate Committee
Instructor

MISSISSIPPI STATE UNIVERSITY
JAMES WORTH BAGLEY COLLEGE OF ENGINEERING

DEPARTMENT OF
COMPUTER SCIENCE & ENGINEERING

Dr. Shahram Rahimi
Professor & Department Head
rahimi@cse.msstate.edu

August 19, 2021

To Whom It May Concern:

I am writing this memo to express the Department of Computer Science and Engineering's support for the proposed online B.S. program in Electrical Engineering by Electrical and Computer Engineering Department. Computer Science and Engineering will do its best to provide capacity in its online courses that are required for this degree.

I would be happy to provide detailed reasoning behind our support, if it is requested.

Sincerely,

Shahram Rahimi, Ph.D.
Professor and Department Head

MISSISSIPPI STATE UNIVERSITY
JAMES WORTH BAGLEY
COLLEGE OF ENGINEERING

OFFICE OF THE
DEAN OF ENGINEERING

July 26, 2021

To Whom It May Concern,

I am writing to express my support of the proposed online Bachelor of Science in Electrical Engineering. Specifically, my department has a course offered online that these students can take to meet degree requirements:

GE 3513 Technical Writing

If there are any questions or I can be of any additional support, please let me know.

Sincerely,

Amy Barton

Amy Barton

Coordinator and Instructor, Shackouls Technical Communication Program
Bagley College of Engineering
Mississippi State University
202 McCain Hall
(662) 325-4240, abarton@bagley.msstate.edu

Appendix 10: Report of Intent to Offer an Existing Degree Program by Distance Learning
(Submit Appendix 10 in PDF format with signatures)

Institution:

Date of Initial Program Approval:	**Date of Implementation:**	**Cost to Offer by Distance Learning:**
	Fall 2022	$6,000

Program Title as It Appears on Academic Program Inventory, Diploma, and Transcript:	**Six-Digit CIP Code(s) & Four-Digit Sequence Code(s):**
Electrical Engineering	141001 & 5226

CIP & Sequence codes: IHL Active Program Inventory

Degree(s) to be Awarded:	**Credit Hour Requirements:**
Bachelor of Science	128

Can this program be completed entirely online? ☐ Yes ☒ No

Will this program require separate admission from those offered on-campus? ☐ Yes ☒ No

Responsible Academic Unit(s):
Department of Electrical and Computer Engineering

Institutional Contact: Dr. Jean Mohammadi-Aragh
Phone: 662-325-2042
Email: jean@ece.msstate.edu

Number of Students Expected to Enroll in First Six Years:		**Number of Graduates Expected in First Six Years:**	
Year One	5	**Year One**	0
Year Two	5	**Year Two**	0
Year Three	8	**Year Three**	3
Year Four	10	**Year Four**	6
Year Five	10	**Year Five**	8
Year Six	10	**Year Six**	10
Total	48	**Total**	27

Program Summary:
The Catalog will mirror the Campus 1 catalog. Due to interest from students with full-time jobs in electrical-related fields, the Department of Electrical and Computer Engineering desires to offer its face-to-face electrical engineering degree (including all concentrations) online. We anticipate some additional advising time and small instructional costs, which will be covered through income from distance fees and distance tuition.

_____ _____
Chief Academic Officer Signature **Date**

_____ _____
Institutional Executive Officer Signature **Date**