For Academic Affairs and Research Use Only	
Proposal Number	
CIP Code:	
Degree Code:	

PROGRAM MODIFICATION FORM

[ ] **Undergraduate Curriculum Council**

[x] **Graduate Council**

Modification Type: [ ]Admissions, [ ]Curricular Sequence, or [x]Other

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

Zahid Hossain 2/20/2023
Department Curriculum Committee Chair

Zahid Hossain 2/20/203
Department Chair

Zahid Hossain 2/20/2023
College Curriculum Committee Chair

ENTER DATE
Director of Assessment *(only for changes impacting assessment)*

Abhijit Bhattacharyya 2/24/2023
College Dean

ENTER DATE
General Education Committee Chair (if applicable)

ENTER DATE
COPE Chair (if applicable)

ENTER DATE
Head of Unit (if applicable)

ENTER DATE
Undergraduate Curriculum Council Chair

ENTER DATE
Graduate Curriculum Committee Chair

Len Frey 4/5/23
Vice Chancellor for Academic Affairs

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1. Contact Person (Name, Email Address, Phone Number)
Zahid Hossain; mhossain@astate.edu; 870-680-4299

2. Proposed Change (for undergraduate curricular changes please provide an 8-semester plan (appendix A), if applicable)

Form Revised: 08/06/2019

Adding non-thesis option in the Master of Science in Electrical Engineering (MSEE) program

3. Effective Date
8/16/2023

4. **Justification –** *Please provide details as to why this change is necessary.*
Recently, a suite of thesis-based MS programs in Civil Engineering, Electrical Engineering and Mechanical Engineering was approved by ADHE as a first step for the college to attract a wide audience of students who have a preference for the specificity in the name of the major of the MS program. Consequently, the legacy thesis-based MS in Engineering will be deactivated. An additional step which should have been taken when the suite of MS programs was proposed is the justification for this current proposal. It is quite common for MS programs in engineering to have a thesis option as well as a non-thesis option. The latter is for students who are not as interested in a research-based MS degree and are more interested in a MS degree where they have the flexibility of acquiring knowledge that is outside their domain. In keeping with the applied nature of the disciplines, the non-thesis option will have a capstone design experience as opposed to a research experience in the thesis option. Students in both options are required to take a minimum of 30 credits.

Bulletin Changes

Instructions

Please visit http://www.astate.edu/a/registrar/students/bulletins/index.dot and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Please include a before (with changed areas highlighted) and after of all affected sections.

***Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.**

Paste bulletin pages here...

Previously submitted changed during configuration
Addition in green
Deletion in ~~green~~

Current changes
Additions in blue.
Deletions in ~~red.~~

Program Page:

~~Engineering, Emphasis in Electrical Engineering, MSE~~ Master of Science in Electrical Engineering, MSEE

Return to: Programs by College

The Master of Science in Electrical Engineering ~~(MSEngr)~~ (MSEE) program provides an educational experience focusing on the integration of research and technology development that allows graduates to be successful in deriving solutions to society's most challenging technical problems. To achieve this goal, the program's objectives are to discover new scientific principles, apply novel engineering solutions, and develop cutting-edge technology toward achieving efficient and sustainable use of resources; to integrate cross-disciplinary research and teaching that produces engineering professionals equipped to take on the more complex problems that face our state and country; and to establish and grow industry-university partnerships that drive toward and prepare the region for a diverse, knowledge-based economy.

Specific program outcomes are listed below. ~~MSEngr~~ MSEE program graduates will have:

- A good understanding of statistical concepts and an ability to apply this knowledge to achieve engineering solutions that most efficiently use information and resources;
- ~~A practical knowledge of fabrication and manufacturing techniques;~~
- An ability to apply advanced mathematical concepts to model physical systems and engineering processes to drive knowledge based design;
- An advanced, cross-disciplinary understanding of engineering sciences, and an ability to relate physical concepts from multiple engineering disciplines;
- An ability to identify critical issues, formulate realistic solutions, evaluate alternatives, and carry out independent research to provide novel solutions to technical problems; and
- A demonstrated ability to make novel, significant contributions to the scientific and engineering body of knowledge.

~~MSENGR~~ MSEE ADMISSION REQUIREMENTS

Each applicant must have an undergraduate GPA of at least 2.75 on a 4.00 scale and a bachelor's degree in engineering. Applicants that do not have a bachelor's degree in engineering, for example those having a bachelor's degree in physics, or those having an undergraduate GPA below 2.75, will be considered on a case-by-case basis and must show equivalent experience and training and have completed the required pre-requisites for the courses. Applicants must present Graduate Record Examination (GRE) scores for the Verbal, Quantitative, and Analytical tests. The minimum combined Verbal and Quantitative reasoning scores must be 300 for the revised GRE test or equivalent scores for general GRE. Applicant not having completed GRE scores may be admitted conditionally, but must complete this requirement prior to finishing the first semester of course work. Applications submitted throughout the year for the following semester and in accordance to Graduate Admissions deadlines will be considered based on qualification and space availability. All application materials must be received by the College of Engineering and Computer Science during the semester prior to the student's official enrollment in A-State courses. Official transcripts, two letters of recommendation, a resume, and a statement of purpose not exceeding three pages are also required for admission. International students require additional proof of English proficiency to meet the admission requirements of Graduate Programs.

ACCELERATED MASTERS PROGRAM

Undergraduate students seeking admission into the Accelerated Master of Science in Electrical Engineering program must meet the admission requirements of Graduate Admissions. ~~In addition, applicants must be enrolled in one of the~~

~~following undergraduate engineering degrees: Bachelor of Science in Civil Engineering, Bachelor of Science in Electrical Engineering, or Bachelor of Science in Mechanical Engineering.~~ In addition, applicants must be enrolled in Electrical Engineering. Students from other majors in the college may also apply but their admission will be considered on a case-to-case basis.

~~MSENGR~~ MSEE APPLICATION DEADLINES

Application deadline is April 1st each year to begin study in the Fall semester and October 1st each year to begin study in the Spring semester. Applications are not accepted for Summer admissions.

~~MSENGR~~ MSEE DEGREE REQUIREMENTS

The MSEE program will have both thesis and non-thesis options. The thesis option is research intensive, whereas the non-thesis option is coursework intensive. Upon admission and though the second semester, students can choose whether to do their MSEE degree as a thesis or non-thesis option.

Thesis-option

The number of semester credit hours for the ~~M.S.E.~~ MSEE degree (thesis option) is 30. Students are required to complete two core courses (ENGR 6023, ENGR 6043) for 6 semester credit hours, a minimum of three 6000 level graduate engineering elective courses for 9 credit hours, two additional approved graduate elective courses for 6 credit hours, one research course (ENGR 6693) for 3 credit hours, and two semesters of thesis research for 6 credit hours. The ~~MSE~~ MSEE curriculum is structured as a two-year program (four semesters).

Non-thesis option

The number of semester credit hours for the MSEE degree (non-thesis option) is also 30. Students are required to complete two core courses (ENGR 6023, ENGR 6043) for 6 semester credit hours, a minimum of four graduate electrical engineering elective courses for 12 credit hours, three additional approved 600-level graduate elective courses for 9 credit hours (at least 3 hrs of ENGR; the rest are preferably from those offered within the college), one capstone design course (ENGR 6693) for 3 credit hours.. The MSEE curriculum is structured as a two-year program.

UNIVERSITY REQUIREMENTS:

See Graduate Degree Policies for additional information

THESIS OPTION
PROGRAM REQUIREMENTS:

- ENGR 6023 - Advanced Engineering Math **Sem. Hrs: 3**
- ENGR 6043 - Applied Probability and Estimation **Sem. Hrs: 3**
- ENGR 6693 - Engineering Research **Sem. Hrs: 3**
- ENGR 689V - Thesis **Sem. Hrs: Variable**
- 6000-Level Engineering Electives **Sem. Hrs: 6**

Sub-total: 21

ELECTIVES:

- Approved-6000 Level Electrical Engineering Electives **Sem. Hrs: 3**
- Approved Electrical Engineering Electives **Sem. Hrs: 6**

Sub-total: 9

TOTAL REQUIRED HOURS: 30

NON-THESIS OPTION
PROGRAM REQUIREMENTS:

- ENGR 6023 - Advanced Engineering Math **Sem. Hrs: 3**
- ENGR 6043 - Applied Probability and Estimation **Sem. Hrs: 3**
- ENGR 6693 - Engineering Research **Sem. Hrs: 3**
- 6000-Level Electives (at least 3 hrs of ENGR; the rest are preferably from those offered within the college) **Sem. Hrs: 9**

Sub-total: 18

ELECTRICAL ENGEERING ELECTIVES:

- Approved-6000 Level Electrical Engineering Electives **Sem. Hrs: 3**
- Approved Electrical Engineering Electives **Sem. Hrs: 9**

Sub-total: 12

TOTAL REQUIRED HOURS: 30

Admission Page:

ADMISSION AS AN UNDERGRADUATE INTO AN ACCELERATED MASTERS PROGRAM

The accelerated master's degree option provides a transition that enables outstanding A-State undergraduate students to begin taking graduate course work in their junior or senior year by combining components of the undergraduate and graduate curriculum. Students admitted into an approved accelerated master's degree program may have a limited number of graduate level courses counted toward both the undergraduate and graduate degree. Students must apply and be admitted to the accelerated master's program by the department before enrolling for any courses to apply to the graduate degree. A-State graduate programs offering an accelerated option are listed below:

- Accounting (M.Acc.)
- Agriculture (M.S.A.) - All Concentrations
- Chemistry (M.S.)
- Computer Science (M.S.)
- Disaster Preparedness and Emergency Management (M.S.)
- Master of Science in Electrical Engineering (MSEE)
- Engineering (M.S.Engr.)
- Engineering Management (M.E.M.)
- History (M.A.)
- Mathematics (M.S.)
- Political Science (M.A.)
- Public Administration (M.P.A.)
- Special Education - Instructional Specialist Grades K-12 (M.S.E.)

Depending on the program, up to 12 hours of graduate credits will apply toward completion of the undergraduate degree requirements. Under the accelerated master's degree option, a student will be fully-admitted to the graduate program upon completion of the baccalaureate degree. This dual counting of a course for both undergraduate and graduate credit will occur only after the student completes the baccalaureate degree. Only courses with grades B or better will be eligible to count toward graduate credit. Undergraduate students interested in the accelerated master's opportunity should contact their department or the Office of the Registrar for admission information.