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

**Reconfiguration of Existing Degree Program Proposal Form**

(Also requires Arkansas Department of Higher Education (ADHE) approval)

**[ ] Undergraduate Curriculum Council**

**[X] Graduate Council**

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

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**Department Curriculum Committee Chair** |

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**COPE Chair (if applicable)** |
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| Alexandr M. Sokolov | 9/17/2022 |

**Department Chair** |

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**Head of Unit (if applicable)**   |
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| **Director of Assessment** |  |

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**Undergraduate Curriculum Council Chair** |
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**College Curriculum Committee Chair** |

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**Graduate Curriculum Committee Chair** |
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**College Dean** |

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| Alan Utter | 10/26/2022 |

**Vice Chancellor for Academic Affairs** |
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**General Education Committee Chair (if applicable)**   |  |

1. **Contact Person** (Name, Email Address, Phone Number)

Alexandr M. Sokolov,

asokolov@AState.edu

1-870-972-3635

1. **Title(s) of degree programs to be consolidated/reconfigured:**

Master of Engineering Management (MEM)

1. **Proposed title of consolidated/reconfigured program:**

Master of Science in Engineering Management (MSEM)

1. **Proposed Effective Date:** Fall 2023
2. **Reason for proposed program consolidation/reconfiguration:**

*(Indicate student need/demand (projected enrollment) for the proposed program and document that the program meets employer needs using the ADFA Workforce Analysis Form)*

This will allow students to complete a thesis option as well as the capstone from the old MEM degree. This has come from the demand of students who are wanting to pursue a thesis option to go into a Ph.D. or research-oriented career instead of just a professional career. The MEM program was updated in 2020 to include a Capstone course which enabled it to be competitive with other MSEM programs around the nation. But this program still kept the title of MEM. The addition of the capstone in 2020 should have changed the name of the program to an MSEM. Adding a thesis option on top of that will elevate the University’s Engineering Management program as a very competitive option for most prospective students.

1. **Provide current and proposed curriculum outline by semester.**

*For undergraduate programs, please use Appendix A-8-semester plan form*

 *Indicate total semester credit hours required for the proposed program. If new courses are needed for the reconfiguration, approval for the courses must be requested prior to approval for the new degree. Underline any new courses. Identify required general education core courses with an asterisk. If utilizing courses from other departments, please color-code them and provide a key.*

|  |  |  |
| --- | --- | --- |
| FALL | Class | Term |
| EGRM 6003 | Engineering Statistics | 1 |
| EGRM 6013 | Quality Control and Improvement | 1 |
| EGRM 6043 | Operations Research | 1 |
| EGRM 6063 | Engineering Law and Ethics | 1 |
| EGRM 6093 | Value Engineering | 1 |
| EGRM 600V | Engineering Capstone | 1 |
| EGRM 6083 | Project Management for Engineers | 2 |
| EGRM 6053 | Advanced Engineering Economy | 2 |
| EGRM 6033 | Engineering Management II | 2 |
| EGRM 600V | Engineering Capstone | 2 |
| EGRM 6133 | Engineering Internship | FULL |
|   |   |   |
| SPRING | Class | Term |
| EGRM 6083 | Project Management for Engineers | 1 |
| EGRM 6053 | Advanced Engineering Economy | 1 |
| EGRM 6013 | Quality Control and Improvement | 1 |
| EGRM 6113 | Finance and Budgeting for Engineering | 1 |
| EGRM 6123 | Human Resource Management for Engineers | 1 |
| EGRM 600V | Engineering Capstone | 1 |
| EGRM 6003 | Engineering Statistics | 2 |
| EGRM 6103 | Entrepreneurship for Engineers | 2 |
| EGRM 5023 | Engineering Management I | 2 |
| EGRM 600V | Engineering Capstone | 2 |
| EGRM 6133 | Engineering Internship | FULL |
|   |   |   |
| SUMMER | Class | Term |
| EGRM 6003 | Engineering Statistics | 1 |
| EGRM 6153 | Facilities Management | 1 |
| EGRM 6143 | Industrial Material Handling | 2 |
| EGRM 6163 | Logistics and Supply Chain | 2 |
| EGRM 600V | Engineering Capstone | FULL |
| EGRM 6133 | Engineering Internship | FULL |

1. **Will the proposed degree be offered:**
	1. **Traditional/Face-to-face** Yes
	2. **Distance/Online** Yes
		1. **If yes, indicate mode of distance delivery, and the percentage of courses offered via this modality (<50%, 50-99%, or 100%).**

100%

* + 1. **If online, will it be offered through Global Initiatives/Academic Partnerships (AP)?**

Yes

1. **Will the proposed degree be offered off-campus?** No
	1. **If yes, identify the off-campus location**

N/A

1. **Provide documentation that proposed program has received full approval by licensure/certification entity, if required.**

 *(A program offered for teacher/education administrator licensure must be reviewed/approved by the Arkansas Department of Education prior to consideration by the Coordinating Board; therefore, the Education Protocol Form also must be submitted to ADHE along with the Letter of Notification).*

Engineering programs at Arkansas State University are accredited by ABET at the undergraduate level only, which is consistent with the national norm. Graduate programs are not typically accredited unless the institution does not offer accredited undergraduate programs. The Bachelor of Science in Engineering Management Systems program will seek ABET ANSAC accreditation as soon as possible.

1. **List institutions offering similar program and identify the institutions used as a model to develop the proposed program.**

Many state and private universities in the United States offer MSEM degrees. These programs are offered with just a Capstone or an option for a Capstone or Thesis within the same program. This program most closely models the MSEM program at the University of Tennessee Chattanooga.

1. **Provide scheduled program review or specialized accreditation initial review date (within 10 years of program implementation).**

The current MEM program completed an ADHE program review during the 2021-2022 academic year. The results were very good, and one change to the program that would help with growth is to make it an MS program. The next evaluation should be during the 2031-32 academic year

1. **Is there differential tuition requested?** *If yes, please fill out the New Program/Tuition and Fees Change Form.*

Yes. Will follow the College of Engineering and Computer Science Differential Tuition.

1. **Graduate programs only: Will this program require a comprehensive exam?**

No, The program requires the presentation and oral defense of an original research by a Capstone or Thesis option

**Student Learning Outcomes**

Provide outcomes that students will accomplish during or at completion of this reconfigured degree. Fill out the following table to develop a continuous improvement assessment process.

*For further assistance, please see the ‘Expanded Instructions’ document available on the UCC - Forms website for guidance, or contact the Office of Assessment at 870-972-2989.*

**University Outcomes**

Please indicate the university-level student learning outcomes for which this new program will contribute. Please complete the table by adding program level outcomes (PLO) to the first column, and indicating the alignment with the university learning outcomes (ULO). If you need more information about the ULOs, go to the [University Level Outcomes Website](http://www.astate.edu/a/assessment/student-learning-outcomes/files/ULOs%20for%20Website2.pdf).

|  |  |  |  |  |
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|  | **ULO 1: Creative & Critical Thinking** | **ULO 2: Effective Communication** | **ULO 3: Civic & Social Responsibility** | **ULO 4: Globalization & Diversity** |
| **PLO 1** Graduates of the Master of Science in Engineering Management program will be able to identify critical issues, formulate realistic solutions, evaluate alternatives, and solve technical problems. | **X** |  |  |  |
| **PLO 2** Graduates of the Master of Science in Engineering Management program will be able to interpret statistical or deterministic models and concepts as well as apply them to technical problems. |  |  | **X** |  |
| **PLO 3** Graduates of the Master of Science in Engineering Management program will be able to communicate effectively, both orally and in writing, to express alternatives and solutions dealing with technical problems. |  | **X** |  |  |
| **PLO 4** Graduates of the Master of Science in Engineering Management program will be able to function effectively as a member or leader on a technical team. |  |  |  | **X** |

***Note: Best practices suggest 4-7 outcomes per program; minors would have 1 to 4 outcomes.***

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| **Outcome 1** | Graduates of the Master of Science in Engineering Management program will be able to identify critical issues, formulate realistic solutions, evaluate alternatives, and solve technical problems. |
| Assessment Procedure Criterion | Direct:Design Process, Content, Analysis, Communication, Control of Syntax and Mechanics, & Sources and Evidence (Will come from Capstone Scoring Rubric.)Indirect:Exit Survey |
| Which courses are responsible for this outcome? | EGRM 600V and EGRM 689V |
| Assessment Timetable | Every time it is offered |
| Who is responsible for assessing and reporting on the results? | Program director and/or course instructor |

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| **Outcome 2** | Graduates of the Master of Science in Engineering Management program will be able to interpret statistical or deterministic models and concepts as well as apply them to technical problems. |
| Assessment Procedure Criterion | Direct:Design Process, Content, Analysis, Communication, Control of Syntax and Mechanics, & Sources and Evidence (Will come from Capstone Scoring Rubric.)Indirect:Exit Survey |
| Which courses are responsible for this outcome? | EGRM 600V and EGRM 689V |
| Assessment Timetable | Every time it is offered |
| Who is responsible for assessing and reporting on the results? | Program director and/or course instructor |

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| **Outcome 3** | Graduates of the Master of Science in Engineering Management program will be able to communicate effectively, both orally and in writing, to express alternatives and solutions dealing with technical problems. |
| Assessment Procedure Criterion | Direct:Design Process, Content, Analysis, Communication, Control of Syntax and Mechanics, & Sources and Evidence (Will come from Capstone Scoring Rubric.)Indirect:Exit Survey |
| Which courses are responsible for this outcome? | EGRM 600V and EGRM 689V |
| Assessment Timetable | Every time it is offered |
| Who is responsible for assessing and reporting on the results? | Program director and/or course instructor |

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| **Outcome 4** | Graduates of the Master of Science in Engineering Management program will be able to function effectively as a member or leader on a technical team. |
| Assessment Procedure Criterion | Direct:Design Process, Content, Analysis, Communication, Control of Syntax and Mechanics, & Sources and Evidence (Will come from Capstone Scoring Rubric.)Indirect:Exit Survey |
| Which courses are responsible for this outcome? | EGRM 600V and EGRM 689V |
| Assessment Timetable | Every time it is offered |
| Who is responsible for assessing and reporting on the results? | Program director and/or course instructor |

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| **I=Introduced**  | **E=Emphasized** | **R=Reinforced** | **M=Mastered** |  |
| Student is not familiar with content/skill/behavior. Instruction concentrates on introducing students to the content area/skill and brings them to some predetermined entrance benchmark.  | Student should have brought basic content/skill to the class. Instruction concentrates on enhancing content/strengthening skill, adding new content material, and building more complex skills based on entrance benchmark.  | Student brings reasonable knowledge and skill to the situation as a result of knowledge/skill being introduced and/or emphasized at some previous point in their educational career. Instructional activity continues to build upon previous benchmarks and reinforce knowledge/skill. | Student brings substantial knowledge and skill to the situation as a result of knowledge/skill emphasized at some previous point in their educational career. Instructional activity continues to build upon previous benchmarks to master knowledge/skill. |  |
|  |  |  |  |  |
|  | **PLO-1**  | **PLO-2**  | **PLO-3**  | **PLO-4**  |
| **Courses**  | **Graduate of the Master of Science in Engineering Management program will be able to identify critical issues, formulate realistic solutions, evaluate alternatives, and solve technical problems.**  | **Graduates of the Master of Science in Engineering Management program will be able to interpret statistical or deterministic models and concepts as well as apply them to technical problems.** | **Graduates of the Master of Science in Engineering Management program will be able to communicate effectively, both orally and in writing, to express alternatives and solutions dealing with technical problems.** | **Graduates of the Master of Science in Engineering Management program will be able to function effectively as a member or leader on a technical team.** |
| **Program Course Requirements:** |  |  |  |  |
| EGRM 5023, Engineering Management I | E | E | E | E |
| EGRM 600V, Engineering Capstone | M | M | M | M |
| EGRM 689V, Thesis | M | M | M | M |
| EGRM 6003, Engineering Statistics | R | M | E | E |
| EGRM 6013, Quality Control and Improvement | R | E | R | R |
| EGRM 6033, Engineering Management II | R | R | R | R |
| EGRM 6043, Operations Research | M | R | M | E |
| EGRM 6053, Advanced Engineering Economy | M | R | R | E |
| EGRM 6063, Engineering Law and Ethics | R | R | R | R |
| EGRM 6073, Special Problems in Engineering Management | M | M | M | M |
| EGRM 6083, Advanced Project Management and Practice | M | R | R | R |
| EGRM 6093, Advanced Value Engineering | M | R | M | M |
| EGRM 6103, Advanced Technical Entrepreneurship | E | E | M | M |
| EGRM 6113, Finance and Budgeting for Engineering | E | E | R | E |
| EGRM 6123, Human Resource Management for Engineers | E | E | R | E |
| EGRM 6133, Internship in Engineering Management | R | R | R | R |
| EGRM 6143, Advanced Industrial Material Handling | E | E | R | M |
| EGRM 6153, Advanced Facilities Management | E | E | R | M |
| EGRM 6163, Advanced Logistics and Supply Chain | R | R | R | R |
| Approved Electives 5000-level or above | R | R | R | R |

*Please repeat as necessary.*

**Bulletin Changes**

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| **Instructions**  |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](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.**  |

Additions in blue.

Deletions in ~~red.~~

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| **2022-2023 Graduate Bulletin****Arkansas State University** |
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| ~~Engineering Management, MEM~~ Master of Science in Engineering Management, MSEMPrint this page.Print this Page |
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The ~~Master of Engineering Management (MEM)~~ Master of Science in Engineering Management, MSEM program, a one-year ~~master’s~~ Master of Science degree plan consisting of 30 semester credit hours, is designed for all engineers on management career paths as well as for those charged with managing technology in engineering, manufacturing, and other high-tech organizations. The ~~MEM~~ MSEM degree program will also benefit engineers pursuing licensure in states where candidates for professional licensure are required to have an additional 30 semester credit hours of coursework beyond the bachelor’s degree or a master’s degree in engineering. The curriculum consists of courses offered by the A-State College of Engineering and Computer Science.Specific program outcomes are listed below. ~~MEM~~ MSEM program graduates will have:* Graduates of the Master of Science in Engineering Management program will be able to identify critical issues, formulate realistic solutions, evaluate alternatives, and solve technical problems.
* Graduates of the Master of Science in Engineering Management program will be able to interpret statistical or deterministic models and concepts as well as apply them to technical problems.
* Graduates of the Master of Science in Engineering Management program will be able to communicate effectively, both orally and in writing, to express alternatives and solutions dealing with technical problems.
* Graduates of the Master of Science in Engineering Management program will be able to function effectively as a member or leader on a technical team.

MEM ADMISSION REQUIREMENTSUnconditional Admission StatusTo be granted unconditional admission status for the ~~Masters~~ Master of Science in Engineering Management Program, applicants must have met the following criteria:1. Meet the minimum requirements for unconditional admission as set by the University.
2. Has passed Calculus I equivalent with a C or better.

Conditional Admission StatusAn applicant who fails to meet the GPA requirements for unconditional admission status, who lacks the appropriate undergraduate background for a particular certificate or degree program, or whose baccalaureate degree is from an unaccredited institution, may be granted conditional admission status.Accelerated Masters Program Admission Status 1. Undergraduate students seeking admission into the Accelerated Master of Science in Engineering Management program must meet the unconditional admission requirements of Graduate Admissions.
2. Applicants must be enrolled in one of the undergraduate programs in the College of Engineering and Computer Science.
3. Has passed Calculus I equivalent with a C or better.

~~Admission to a Certificate or Degree Program:~~~~In addition to meeting the minimum requirements of the University, an applicant for admission to a certificate, master’s, specialist, or doctoral degree program also must meet departmental and/or program requirements. Applicants to a degree program must hold a baccalaureate or higher degree from an accredited four-year institution with the appropriate undergraduate background in the field of the proposed.~~~~MEM~~ MSEM Degree RequirementsThe number of semester credit hours for the master’s degree is 30. Students are required to complete core courses (15 semester credit hours) and elective courses (15 semester credit hours) with 3 credit hours of EGRM 600V for the Capstone Track, or students are required to complete the core courses (18 semester credit hours) and elective courses (12 semester credit hours) with 6 credit hours of EGRM 689V for the Thesis Track. Students must get approval from the Program Director to take the Thesis Track. Students must take a minimum of 18 semester hours in courses numbered at the 6000 level. |
| UNIVERSITY REQUIREMENTS:See Graduate Degree Policies for additional informationMEM PROGRAM REQUIREMENTS:Capstone Track:* EGRM 6003 - Engineering Statistics **Sem. Hrs:** **3**
* EGRM 6013 - Quality Control and Improvement **Sem. Hrs:** **3**
* EGRM 6053 - Advanced Engineering Economy **Sem. Hrs:** **3**
* EGRM 6083 – Advanced Project Management and Practice **Sem. Hrs:** **3**
* EGRM 600V - Engineering Capstone **Sem. Hrs:** **Variable**

Select fifteen hours from following:* EGRM 5023 - Engineering Management I **Sem. Hrs:** **3**
* EGRM 6033 - Engineering Management II **Sem. Hrs:** **3**
* EGRM 6043 - Operations Research **Sem. Hrs:** **3**
* EGRM 6063 - Engineering and Computer Science Law and Ethics **Sem. Hrs:** **3**
* EGRM 6073 - Special Problems in Engineering Management **Sem. Hrs:** **3**
* EGRM 6093 - Advanced Value Engineering **Sem. Hrs:** **3**
* EGRM 6103 – Advanced Technical Entrepreneurship **Sem. Hrs:** **3**
* EGRM 6113 - Finance and Budgeting for Engineering **Sem. Hrs:** **3**
* EGRM 6123 - Human Resource Management for Engineers **Sem. Hrs:** **3**
* EGRM 6133 - Internship in Engineering **Sem. Hrs:** **3**
* EGRM 6143 - Industrial Material Handling **Sem. Hrs:** **3**
* EGRM 6153 - Advanced Facilities Management **Sem. Hrs:** **3**
* EGRM 6163 - Advanced Logistics and Supply Chain **Sem. Hrs:** **3**
* Approved Electives **Sem. Hrs: 9**

Sub-total: 30Thesis Track:* EGRM 6003 - Engineering Statistics **Sem. Hrs: 3**
* EGRM 6013 - Quality Control and Improvement **Sem. Hrs:** **3**
* EGRM 6053 - Advanced Engineering Economy **Sem. Hrs:** **3**
* EGRM 6083 – Advanced Project Management and Practice **Sem. Hrs:** **3**
* EGRM 6689V - Thesis **Sem. Hrs:** **Variable**

Select twelve hours from following:* EGRM 5023 - Engineering Management I **Sem. Hrs:** **3**
* EGRM 6033 - Engineering Management II **Sem. Hrs:** **3**
* EGRM 6043 - Operations Research **Sem. Hrs:** **3**
* EGRM 6063 - Engineering and Computer Science Law and Ethics **Sem. Hrs:** **3**
* EGRM 6073 - Special Problems in Engineering Management **Sem. Hrs:** **3**
* EGRM 6093 - Advanced Value Engineering **Sem. Hrs:** **3**
* EGRM 6103 – Advanced Technical Entrepreneurship **Sem. Hrs:** **3**
* EGRM 6113 - Finance and Budgeting for Engineering **Sem. Hrs:** **3**
* EGRM 6123 - Human Resource Management for Engineers **Sem. Hrs:** **3**
* EGRM 6133 - Internship in Engineering **Sem. Hrs:** **3**
* EGRM 6143 - Industrial Material Handling **Sem. Hrs:** **3**
* EGRM 6153 - Advanced Facilities Management **Sem. Hrs:** **3**
* EGRM 6163 - Advanced Logistics and Supply Chain **Sem. Hrs:** **3**
* Approved Electives **Sem. Hrs: 9**

Sub-total: 30TOTAL REQUIRED HOURS: 30 |

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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.)
* Engineering (M.S.Engr.)
* Engineering Management ~~(M.E.M.)~~ (M.S.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.