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

**New or Modified Course Proposal Form**

**[X] Undergraduate Curriculum Council**

**[ ] Graduate Council**

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| **[X]New Course, [ ]Experimental Course (1-time offering), or [ ]Modified Course (Check one box)** |

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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| Dr. Brandon Kemp 10/30/2020 **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| Dr. Brandon Kemp 10/30/2020 **Department Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (if applicable)** |
| Jason Stewart 10/30/2020  **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| Mary Elizabeth Spence 10/29/2020 **Director of Assessment (new courses only)** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
| Dr. Abhijit Bhattacharyya 10/30/2020 **College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Vice Chancellor for Academic Affairs** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **General Education Committee Chair (if applicable)** |  |

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

Alexandr M. Sokolov

[asokolov@astate.edu](mailto:asokolov@astate.edu)

870-972-3635

1. **Proposed starting term and Bulletin year for new course or modification to take effect**

Fall 2021

**Instructions:**

*Please complete all sections unless otherwise noted. For course modifications, sections with a “Modification requested?” prompt need not be completed if the answer is “No.”*

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|  | **Current (Course Modifications Only)** | **Proposed (New or Modified)**  *(Indicate “N/A” if no modification)* |
| **Prefix** |  | **EGRM** |
| **Number\*** |  | **4023** |
| **Title** |  | **Engineering Management I** |
| **Description\*\*** |  | **The essentials of management that are pertinent to practicing managers are emphasized. The theory, principles, and techniques are presented as an art and applying the science of the underlying organized knowledge of management to the realities of situations.** |

***\**** (Confirm with the Registrar’s Office that number chosen has not been used before and is available for use. For variable credit courses, indicate variable range. *Proposed number for experimental course is 9*. )

\*\*Forty words or fewer as it should appear in the Bulletin.

1. **Proposed prerequisites and major restrictions** **[Modification requested?]**

(Indicate all prerequisites. If this course is restricted to a specific major, which major. If a student does not have the prerequisites or does not have the appropriate major, the student will not be allowed to register).

1. Yes Are there any prerequisites?
   1. If yes, which ones?

C or better in MATH 2143, Business Calculus or MATH 2204, Calculus I.

* 1. Why or why not?

Students are required to know basic Calculus for modeling and quantitative decision making in this course.

1. No Is this course restricted to a specific major?
   1. If yes, which major? Enter text...
2. **Proposed course frequency [Modification requested?]**

(e.g. Fall, Spring, Summer; if irregularly offered, please indicate, “irregular.”) *Not applicable to Graduate courses.*

Spring

1. **Proposed course type [Modification requested?]**

Will this course be lecture only, lab only, lecture and lab, activity (e.g., physical education), dissertation/thesis, capstone, independent study, internship/practicum, seminar, special topics, or studio? Please choose one.

Lecture only

1. **Proposed grade type [Modification requested?]**

What is the grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental, or other [please elaborate])

Standard Letter

1. YES Is this course dual-listed (undergraduate/graduate)?
2. NO Is this course cross-listed?

*(If it is, all course entries must be identical including course descriptions. Submit appropriate documentation for requested changes. It is important to check the course description of an existing course when adding a new cross-listed course.)*

**a.** – If yes, please list the prefix and course number of the cross-listed course.

Enter text...

**b.** – **Yes / No** Can the cross-listed course be used to satisfy the prerequisite or degree requirements this course satisfies?

Enter text...

1. YES Is this course in support of a new program?

a. If yes, what program?

Bachelor of Science in Engineering Management Systems

1. NO Will this course be a one-to-one equivalent to a deleted course or previous version of this course (please check with the Registrar if unsure)?

a. If yes, which course?

Enter text...

**Course Details**

1. **Proposed outline** **[Modification requested?]**

(The course outline should be topical by weeks and should be sufficient in detail to allow for judgment of the content of the course.)

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| Week | Topic |
| 1 | Engineering Management Responsibility, ethics, and legal issues |
| 2 | Global Environment, management theory and concepts |
| 3 | Managing knowledge workers and types of intellectual property |
| 4 | Leading individuals and project teams |
| 5 | Managing multi-generational workforce and operations research |
| 6 | Simulation and decision analysis and accounting and finance |
| 7 | Systems engineering and thinking with risk management |

1. **Proposed special features** **[Modification requested?]**

(e.g. labs, exhibits, site visitations, etc.)

No

1. **Department staffing and classroom/lab resources**

Engineering Management

1. Will this require additional faculty, supplies, etc.?

No

1. NO Does this course require course fees?

*If yes: please attach the New Program Tuition and Fees form, which is available from the UCC website.*

**Justification**

**Modification Justification (Course Modifications Only)**

1. Justification for Modification(s)

Enter text...

**New Course Justification (New Courses Only)**

1. Justification for course. Must include:

a. Academic rationale and goals for the course (skills or level of knowledge students can be expected to attain)

Student will learn all the basic topics that Engineering Managers are required to know as well as what types of careers are available.

b. How does the course fit with the mission of the department? If course is mandated by an accrediting or certifying agency, include the directive.

This course introduces students to general engineering management concepts used in the industry. This allows graduates to have working knowledge of engineering management systems to improve their community, society, and industry.

c. Student population served.

Targeted for students in the BSEMS and available for other majors.

d. Rationale for the level of the course (lower, upper, or graduate).

This course builds on the general elective requirements and calculus concepts to ensure students have all the aptitude to be successful.

**Assessment**

**Assessment Plan Modifications (Course Modifications Only)**

1. **Yes / No** Do the proposed modifications result in a change to the assessment plan?

*If yes, please complete the Assessment section of the proposal*

**Relationship with Current Program-Level Assessment Process (Course modifications skip this section unless the answer to #18 is “Yes”)**

1. What is/are the intended program-level learning outcome/s for students enrolled in this course? Where will this course fit into an already existing program assessment process?

1. an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline;

1. Considering the indicated program-level learning outcome/s (from question #19), please fill out the following table to show how and where this course fits into the program’s 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.*

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| **Outcome 1** | An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline |
| Assessment Measure | Direct: Projects assessed with Rubric; Indirect: Exit Survey |
| Which courses are responsible for this outcome? | EGRM 4003 Engineering Management Design I |
| Assessment  Timetable | Collect data whenever course is offered. But assess every 3 years as the College of Engineering and Computer Science Assessment schedule. |
| Who is responsible for assessing and reporting on the results? | The course instructor, Program coordinator, and the Program Director |

*(Repeat if this new course will support additional program-level outcomes)*

**Course-Level Outcomes**

1. What are the course-level outcomes for students enrolled in this course and the associated assessment measures?

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| **#1** | Present a project dealing with the aspects of Engineering Management that show the ability to apply knowledge, techniques, skills, and tools to solve problems. |
| Which learning activities are responsible for this outcome? | Presentation of course project. |
| Assessment Measure | Project grade with scoring rubric. |

**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.** |

Course Descriptions to be added at page 475 in the 2020-2021 Undergraduate Bulletin.

**EE 479V. Special Problems in Electrical Engineering**  Individually directed problems in electrical engineering for juniors and seniors. A course outline and project summary listing the goals and expected outcomes must be approved by the student advisor and the program director. Prerequisites are dependent on the nature of the special problem. Demand

**Engineering Management (EGRM)**

**EGRM 3003 Technical Entrepreneurship** Perspectives at the political, social, and personal levels for engineers dealing with entrepreneurship and innovation. Project required. Fall.

**EGRM 3013 Project Management and Practice** The identification, selection, and planning of projects, including structure, work breakdown structures (WBS), scheduling, PERT/Gantt charts, critical path method (CPM), budgeting, decision analysis, risk management, and the monitoring and control of projects. Spring.

**EGRM 4003 Engineering Management Design I** Multidisciplinary group work on a design problem from conceptualization through selection of best alternative. A project proposal is required. Prerequisites, C or better in MATH 2143 or MATH 2204. Fall.

**EGRM 4013 Engineering Management Design II** Group work to complete final design and testing aspects of a senior design project. A public oral presentation is required. Prerequisite, C or better in EGRM 4003. Spring.

**EGRM 4023 Engineering Management I** The essentials of management that are pertinent to practicing managers are emphasized. The theory, principles, and techniques are presented as an art and applying the science of the underlying organized knowledge of management to the realities of situations. Prerequisites, C or better in MATH 2143 or MATH 2204. Spring.

**EGRM 4033 Value Engineering Systems** Application of techniques which maximize the value of products, processes, construction, or services. Topics covered include functional analysis, functional costing, generation of alternative designs, evaluation of alternative designs, lifecycle cost analysis, proposal preparation, and presentations. Prerequisites, C or better in MATH 2143 or MATH 2204. Fall.

**EGRM 4043 Logistics and Supply** **Chain Systems** Topics of logistics operations in transportation, concepts of facilities and methods used in supply chain. Third party logistics, fleet management, physical distribution and a number of other concepts are introduced. Prerequisites, C or better in MATH 2143 or MATH 2204. Spring.

**EGRM 4053 Technical Human Resource Management for Engineers** Application of human resource management in an organization, including human resource leadership, recruitment strategies, equal employment selection, employee retention and turnover, performance management, employment law, diversity, and global talent management. Prerequisites, C or better in MATH 2143 or MATH 2204. Fall.

**EGRM 4063 Engineering Management Internship** Practical experience in engineering management. Evaluation and reports required. Internships are coordinated with the prior consent of the course instructor by aligning with a business. Prerequisites, program director approval. Fall, Spring.

**EGRM 4073 Facilities Management Systems** Methods of designing new facilities and expanding or renovating existing facilities. Planning facility layout, facility location, and activities are presented. Topics such as analysis of workspace, workflow, material handling systems, facility planning data collection methods, and process flow-charting are covered. Prerequisites, C or better in MATH 2143 or MATH 2204. Spring.

**Curriculum and Instruction (ELCI)**

**ELCI 4013. Curriculum and Assessment Instructional Theory and Practice** Course focuses on current theory and practice for instructional techniques and fundamentals of educational measurement as they apply to classroom situations. This course is a corequisite to the TI 4013 Teaching Internship