MOU for New Online Program Development: Master of Engineering in Industrial Engineering, Engineering Management Option

OSU Extended Campus welcomes this opportunity to make this graduate program available to an off-campus audience. This degree will be an important addition to OSU online programs.

Program Personnel

Development Coordination

The College of Engineering, hereafter referred to as “the College,” agrees to assign a year-round (12 month) program coordinator to serve as the main contact person to coordinate development of this degree program with Ecampus, to assist with marketing, and to help address any issues that may arise.

In general, the coordinator acts as the main point of contact between College and Ecampus personnel (course development, marketing, learner services, etc.).

- Program Development
  - Create course development plan and schedule
  - Identify course developers
  - Ensure the program is developed according to the agreed upon timeline
  - Act as liaison between Ecampus and College when needed
  - Act as liaison for any courses from outside Colleges if needed
  - Attend Ecampus orientation for new staff

- Course Development
  - Ensure courses are developed according to the agreed upon timeline

- Ongoing
  - Identify instructor/TA course development/facilitation training needs, coordinating with Ecampus to plan and schedule training
  - Attending meetings as needed with Ecampus

- Marketing
  - The program coordinator will meet with the Ecampus marketing team pre-program launch to create an annual marketing plan drafted by Ecampus.
  - During this pre-program launch time, we will identify key marketing audiences, enrollment goals, and keywords for website optimization with search engines (SEO). Program coordinator will review and approve the marketing plan.
  - The foundation of Ecampus marketing rests on a “microsite” hosted on the Ecampus website. Prior to this site going live, the program coordinator will ensure that the following is listed on this microsite: clear one-year path of course offerings, e.g., consistent day(s), time and location of classes known in advance. Additionally, type of admissions options will be articulated, e.g., rolling, cohort, non-degree.
Program coordinator will provide ongoing review of marketing materials from plan, including program website creation, program flyer, ads, press releases, follow-up communication plan with prospects, etc.

Note: Ecampus marketing implementation, including microsite going live, will begin once Category II curricular approval has been granted and administrative systems are in place for applicants to the program.

Position funding is described below.

Development Scheduling

- **Student Enrollment**: Students may enroll as distance degree seeking students in this program effective fall term, 2014.
- **Course Development**: Course development will start summer term, 2014, and will be completed by summer term, 2017. Course development will progress according to the development planning chart (See Appendix A). Ecampus recommends developing new courses over a period of two terms. Course materials are due six weeks in advance of the initial term offering.
- **Schedule Adjustments**: Adjustments to the development plan need to be submitted to Ecampus in writing. If a development plan adjustment is requested, an amended development planning chart should also be submitted (See Appendix A).
- **Training Schedule**: Course developers new to online course development or new to OSU will participate in the Developing an Online Course workshop offered by Ecampus. This workshop is offered online every term and is asynchronous. Participants will be introduced to Ecampus services, procedures, and policies; best practices in online course design and facilitation; online content resources; and tools within and outside of the learning management system. Ecampus recommends that course developers participate in this workshop at least two terms prior to first delivering the course.

Course Development

The College will develop 12 new course(s) for online delivery through Extended Campus.

- When development is complete, the College must give approval for on-going offerings of each course in order to accommodate student demand for the course and timely progress towards degree completion, and to allow Ecampus to recoup development costs over time.
- The sequence and timing of course design, development, and offering are delineated in the Development Plan below. (See Appendix A.)
- All courses must have full curricular approval and be posted to OSU General Catalog before they can offered for online delivery.

All courses making up the distance degree will be focused on outcome-based learning and aligned with the accrediting standards for learning outcomes established by the OSU Office of Academic Programs. Preliminary syllabi for each of the courses are to be submitted to Ecampus prior to course development. (Syllabus templates are available.)

All courses in the proposed program will be developed using the best practices framework for instructional design for distance education courses and programs, aligned with OSU and national standards for distance education courses and programs, employing the Blackboard course management system. (Sample best practice courses are available for review.)

Appendix B, Ecampus Essentials, and Appendix C, Overview of Best Practices for Online Course Design, elaborate on these best practices. In order to be deemed complete and to receive development funding, courses will need to demonstrate the items in Appendix B, Ecampus Essentials. Exceptions must be approved by the Director of Course Development and Training, Shannon Riggs. The Ecampus Course Development Team strongly recommends the practices outlined in Appendix C.

Each Course Developer will be assigned to work with an Instructional Designer from Ecampus. The Course Developers will engage in continued collaboration with the Instructional Design Team from project
inception and will ensure course completion and approval of the course at least 6 weeks prior to the initial term start. Completion status of the course is determined by the Senior Instructional Designer and the Extended Campus Director of Course Development and Training (CDT) in consultation with the College designee. Courses will be reviewed by designee(s) from the College and Ecampus upon completion and approval prior to initial course offering.

If the course materials are not received at least 6 weeks prior to the start of initial term, the CDT Director will consult with the College concerning advisability of course cancellation.

As delineated in the existing MOU with the College, Ecampus will provide (at no project cost) basic course development and production including: instructional design with best practices covering accessibility and copyright, project management, media development, Blackboard course development, training, marketing, and on-going student and instructor support.

**Use of Course and Materials**
The Course Developers will have control of the substantive and intellectual content of materials subject to review and approval of the College. Course Developers shall receive credit as a named author or a principal developer of the course. The College may add additional authors in accordance with their contribution to the course and as determined by the Course Developers. Course Developers have the right to remove his or her name from the course at any time, in coordination with the College and Extended Campus. The College can appoint others to teach the courses. Consistent with the rules of the State Board of Higher Education, the Board owns the course and materials and OSU shall have the exclusive right to offer the course, whether through internet, video transmission, IP Video, interactive TV, or by other means, to any student at any location.

Link to the Oregon University System policies relating to intellectual property: [http://arcweb.sos.state.or.us/pages/rules/oars_500/oar_580/580_043.html](http://arcweb.sos.state.or.us/pages/rules/oars_500/oar_580/580_043.html)

**End of Project Report**
Please submit a final report after completion of the project to include:

- Description of the development process,
- Two-year schedule for continued course and program delivery,
- Student feedback on their experience taking the courses,
- Data on course evaluation,
- Faculty response to the development activity,
- Final expense report,
- Plans for program sustainability.

After submission and acceptance of the final report, the Ecampus review team will verify that all program components are in place upon which time the remaining funds will be released.

**Funding**
For coordination, course development, and program delivery:

Total Funding = $288,500(non-recurring and recurring)

Funding Overview with Details of Budget Transfer per Program Component
Budget will be transferred to the College as follows:

Non-recurring Total= $ 222,500
1. Course development
   - $180,000 total; $15,000 per course
     - Develop 12 new courses for online delivery (see Development Plan, Appendix A, below)
     - Funds will be budget transferred to the College for support of course development:
       - once the course is deemed complete and meets Ecampus essentials in Appendix B (attached), and
       - has been reviewed and approved by the appropriate designee of the College in collaboration with the Ecampus Director of Course Development and Training.
       - Courses that are new to OSU must first obtain full curricular approval (Cat. II) for development and funds transfer (See Appendix A).

2. Student Assistants
   - $42,000
     - for hire of graduate teaching assistants to aid in grading and course management. Transferred after student assistants are hired.

3. End-of-Project Report
   - $500
     - Transferred upon completion of the project and acceptance of the final report.

Recurring Total= $66,000

1. Course development coordination
   - Staffing
     - $66,000 total, $22,000 per year, for three years (year-round)
     - First payment of $22,000 to be budget transferred to the College upon signing of the MOU and appointment of the Coordinator;
     - If a formal search process takes place for the hire of the Coordinator, Ecampus would appreciate being invited to participate on the Search Committee;
     - Ecampus will assume no direct payroll.
Funding Agreement Terms

The funding agreements in this document are contingent upon completion of course development and offering as describe above, and summarized in the Course Development Plan. Changes to the agreements, timetables or funding will be based on written agreement between the College and Ecampus designees. The funding agreements are subject to renegotiation if course assessments, development and delivery do not precede according to the accepted Course Development Plan, with course assessments/development completed by the end of summer term, 2017.

Signatures

Signatures below indicate acceptance of these terms and conditions, which supersede any prior development funding agreement(s) for this program and/or the courses contained therein.

_______________________________  ______________________________
Scott Ashford, Dean  Date
College of Engineering

_______________________________  ______________________________
Lisa Templeton, Executive Director  Date
OSU Extended Campus

_______________________________  ______________________________
Robert Stone, Professor and Interim Head  Date
School of Mechanical, Industrial
and Manufacturing Engineering
College of Engineering
## Appendix A: Development Plan (original)

<table>
<thead>
<tr>
<th>Course</th>
<th>Mode</th>
<th>4 EAN</th>
<th>Design</th>
<th>Develop</th>
<th>Offer</th>
<th>Offer</th>
<th>Offer</th>
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</thead>
<tbody>
<tr>
<td>IE 571 Intro. to Management for Engineers and Scientists</td>
<td>Online</td>
<td>3</td>
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<tr>
<td>IE 571 Project Management in Engineering</td>
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<tr>
<td>IE 5xx Operations Management Science</td>
<td>Online</td>
<td>4</td>
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<td>IE 5xx Advanced Financial Management</td>
<td>Online</td>
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<td>NGE 5xx Lean Manufacturing Systems</td>
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<tr>
<td>IE 5xx Systems Engineering</td>
<td>Online</td>
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<tr>
<td>IE 5xx Legal Aspects of Engineering and Engineering Management</td>
<td>Online</td>
<td>4</td>
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<td>IE 5xx Risk Management</td>
<td>Online</td>
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<tr>
<td>IE 5xx Information Technology and Information Systems Management</td>
<td>Online</td>
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<tr>
<td>IE 5xx Product Development</td>
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<tr>
<td>IE/CEM 5xx Professional Responsibility and Ethics</td>
<td>Online</td>
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<tr>
<td>IE 5xx Strategic Planning</td>
<td>Online</td>
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</table>
Amended Development Plan

Initial development
The four core courses will be developed in the June 2013 – August 2014 timeframe. These courses will be delivered in the initial year of the e-campus degree program.

**IE 5xx: Introduction to Management for Engineers and Scientists** (4)

**IE 5xx: Operations Management Science** (4)

**IE 5xx: Advanced Financial Management** (4)

**IE 571: Project Management in Engineering** (3)

**AY 2014-15**
The initial four core courses will be delivered, one per quarter, starting in fall 2014 according to the following schedule:

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2014</td>
<td>IE 5xx: Introduction to Management for Engineers and Scientists* (4)</td>
</tr>
<tr>
<td>Winter 2015</td>
<td>IE 571: Project Management in Engineering* (3)</td>
</tr>
<tr>
<td>Spring 2015</td>
<td>IE 5xx: Operations Management Science* (4)</td>
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<tr>
<td>Summer 2015</td>
<td>IE 5xx: Advanced Financial Management* (4)</td>
</tr>
</tbody>
</table>

Four additional courses will be developed during the year:

**IE 5xx: Legal Aspects of Engineering and Engineering Management** (4)

**MFGE 536: Lean Manufacturing Systems** (4)

**IE 5xx: Systems Engineering** (3)

**CEM 5xx: Risk Management** (4)

**AY 2015-16**
In year two of the program, the four new course developed in year one will join the annual offerings according to the following schedule:

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2015</td>
<td>IE 5xx: Introduction to Management for Engineers and Scientists* (4)</td>
</tr>
<tr>
<td></td>
<td>MFGE 536: Lean Manufacturing Systems (4)</td>
</tr>
<tr>
<td>Winter 2016</td>
<td>IE 571: Project Management in Engineering* (3)</td>
</tr>
<tr>
<td></td>
<td>IE 5xx: Systems Engineering (3)</td>
</tr>
<tr>
<td>Spring 2016</td>
<td>IE 5xx: Operations Management Science* (4)</td>
</tr>
<tr>
<td></td>
<td>IE 5xx: Legal Aspects of Engineering and Engineering Management (4)</td>
</tr>
<tr>
<td>Summer 2016</td>
<td>IE 5xx: Advanced Financial Management* (4)</td>
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<td></td>
<td>CEM 5xx: Risk Management (4)</td>
</tr>
</tbody>
</table>
Four additional courses will be developed during this year:

**IE 5xx: Strategic Planning (3)**

**IE 5xx: Information Technology and Information Systems Management (4)**

**IE 5xx: Product Development (4)**

**CEM 5xx: Professional Responsibility and Ethics (4)**

**AY 2016-17**

In year three of the program, the complete set of courses constituting the 45 credit MEng degree program will be offered according to the following schedule:

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>Fall 2016</td>
<td>*<em>IE 5xx: Introduction to Management for Engineers and Scientists</em> (4)**</td>
</tr>
<tr>
<td></td>
<td>MFGE 536: Lean Manufacturing Systems (4)</td>
</tr>
<tr>
<td></td>
<td><strong>IE 5xx: Information Technology and Information Systems Management (4)</strong></td>
</tr>
<tr>
<td>Winter 2017</td>
<td><em><em>IE 571: Project Management in Engineering</em> (3)</em>*</td>
</tr>
<tr>
<td></td>
<td><strong>IE 5xx: Systems Engineering (3)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>IE 5xx: Product Development (4)</strong></td>
</tr>
<tr>
<td>Spring 2017</td>
<td><em><em>IE 5xx: Operations Management Science</em> (4)</em>*</td>
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<tr>
<td></td>
<td><strong>IE 5xx: Legal Aspects of Engineering and Engineering Management (4)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>CEM 5xx: Professional Responsibility and Ethics (4)</strong></td>
</tr>
<tr>
<td>Summer 2017</td>
<td><em><em>IE 5xx: Advanced Financial Management</em> (4)</em>*</td>
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<td></td>
<td><strong>CEM 5xx: Risk Management (4)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>IE 5xx: Strategic Planning (3)</strong></td>
</tr>
</tbody>
</table>

**Appendix B: Ecampus Essentials**

The course-design rudiments listed below are considered “Ecampus Essentials.” In order for a course development to be deemed complete and funding processed, these requirements need to be met. (In rare cases where an exception may be warranted, the course developer should consult with the Senior Instructional Designer.)

1. Faculty developers work in collaboration with Ecampus personnel and must meet agreed-upon course development deadlines.
2. All OSU-required syllabus and course schedule information is present, including special curricular instructions for Bacc Core, WIC, and DPD. (Note that Bacc core courses must use the prescribed course outcomes.)
3. Outcomes, course content, learning activities, and assessments are aligned in terms of content and cognitive level.
4. Courses are organized with student-centered navigation, using a units/themes/week-by-week folder structure (as opposed to lengthy menus or a mass collection of files without a discernible organization).

5. Three forms of interaction are present, in some form, in the course:
   a. Student/content (such as discussion board, readings, video, research projects)
   b. Student/instructor (such as discussion board, response to assignments, inclusion of a general discussion forum the instructor will facilitate)
   c. Student/student (such as discussion board, group projects, peer reviewed assignments, blogs)

6. Appropriate tools are used for their intended purposes (for example: assignment tool for homework rather than having students emailing assignments, grade center for communicating grades). Tracking assignments and student progress through Blackboard helps us create an archive of the class once it is over, which we can reference in case of a clerical error on a student transcript or a grade challenge. Tracking assignments and student progress through Blackboard also helps Financial Aid determine if a student has been “present” in an online class.

7. Copyright permissions for any borrowed images, textual content, film, or other source materials have been requested (course developers provide publication information; Ecampus processes requests).

8. Audio and visual quality must be clear for all multimedia, and multimedia should be presented for an audience of online students.

9. Course content is posted in accessible format (such as a PDF file with document tags, or PowerPoint presentations with sufficient contrast between the background and text).

10. Information about learner support is provided, such as the Important Links page present in most Ecampus courses (http://oregonstate.edu/instruct/dce/importantlinks.html).
### Appendix C: Overview of Best Practices for Online Course Design

This chart provides an overview of best practices for online course design and is based upon the [Quality Matters Rubric](#).

<table>
<thead>
<tr>
<th>General Standard</th>
<th>Detailed Standards</th>
<th>Why it’s important</th>
</tr>
</thead>
</table>
| **Course Overview and Introduction** (Navigation) | • Course opens to announcement area  
• Menu buttons kept to a minimum, unused buttons deleted  
• Course structured into intuitive sections (weeks, units, etc.), with all materials for each section housed within that section  
• Avoid folders-within-folders and other confusing navigational structures  
• All OSU-required syllabus information is present (instructor's name, OSU email address, contact information, grading policies, etc.)  
• A course schedule with due dates is provided (within the syllabus or as a separate document)  
• Syllabus also includes information for online students, such as netiquette requirements and technical support info  
• Required special curricular instructions are provided for Bacc Core, WIC, and DPD courses | Clear navigation and overview/introductory materials help students find what they need, reducing frustration, and they help students avoid missing important instructions or assignments. |
| **Learning Objectives** | • Course outcomes are measurable and observable (avoiding ambiguous verbs such as “understand,” or “comprehend”)  
• Course outcomes are equivalent to on-campus offerings of the same course  
• Weekly learning objectives or a weekly introduction is provided | Learning outcomes are the roadmap for the course. Clear outcomes tell us exactly what should be covered and at which depth. |
| **Assessment and Measurement** | • Grading policies are stated clearly (such as stating grading criteria or supplying a rubric)  
• Assessments (assignments, exams, projects, discussions, etc.) are aligned with course outcomes in content and cognitive level  
• All assessments are collected within Blackboard  
• If proctored exams are desired, proctoring requirements are established with the testing coordinator | Clear expectations help students succeed. Assessments should be aligned with outcomes to ensure that outcomes are being met. Collection within Blackboard is important for record-keeping and financial aid purposes. |
| **Instructional Materials** | • Instructional materials are in alignment with the course outcomes  
• Instructional materials are appropriately cited  
• Copyright permissions for any borrowed images, textual content, film, or other source materials have been requested; in cases where permissions are denied or when fees are not feasible, the source materials in question are removed  
• Instructional materials are presented in formats demonstrating best | Instructional materials should prepare students for assessments. Copyright laws must be followed. Research shows that adherence to best practices for presenting |
| Learner Interaction and Engagement | • Learning activities are aligned with course outcomes  
• Opportunities for active learning are provided  
• The instructor’s response times for communications and grading are clearly stated  
• Three forms of interaction are present in the course:  
  • Student/content (such as discussion board, readings, video, research projects)  
  • Student/instructor (such as discussion board, response to assignments, inclusion of a general discussion forum the instructor will facilitate)  
  • Student/student (such as discussion board, group projects, peer reviewed assignments, blogs)  
| Research shows that active learning opportunities, as well as the three forms of interaction, are effective in online classes and for adult students.  
Response times help create a structure of interaction. |
| Course Technology | • Appropriate tools are used for their intended purpose (assignment tool for homework, exam tool for exams, rather than having students email assignments, for example)  
• Tools outside of Bb are used in ways that comply with FERPA regulations and student completion of work is logged within Bb  
• Grades are communicated to students using the Bb grading center  
• Hidden and duplicate columns are deleted from the grade center  
• Links to outside resources are functional  
| FERPA adherence is required by law. Tracking student participation and progress within Blackboard helps us keep records and helps the financial aid office determine eligibility. |
| Learner Support | • The Important Links page is included in the Course Information area ([http://oregonstate.edu/instruct/dce/importantlinks.html](http://oregonstate.edu/instruct/dce/importantlinks.html))  
• Library course guides are used, when appropriate to the course  
| Online students pay for access to student services. |
| Accessibility | • Menu buttons are used (not links), simple color scheme  
• Visuals, such as PowerPoint presentations, contain sufficient contrast from background color to foreground text  
• Documents are posted in accessible format (such as a PDF file with document structure tags)  
| Providing accessible content is required by law. |