

New Certificate Program Proposal Engineering Management

Status: Pending Review - Faculty Senate Exec Committee ([Previous Version](#))

Hide All Reviews ▼

1. Review - College Approver - Engineering

Approved by [Frank Chaplen](#) Associate Professor / Biol & Ecol Engineering, *January 24, 2019 4:38pm*

2. Review - Curriculum Coordinator

Sent Back by [Janice Nave-Abele](#) Curriculum Coordinator / University Accreditation, *January 28, 2019 8:50am*

Comments

Janice Nave-Abele (Curriculum Coordinator) January 28, 2019 8:50am

1. Upload a letter or email from at least one of your Liaisons indicating support. Currently, there are names but no letters or emails uploaded. I would recommend Harriet since the courses are offered in her School.

2. I don't see the Space Evaluation. Did I miss it? You will need to upload it into the "Other Attachments" sections.

3. The attached Budgets don't have the name of the BEBC reviewer (and date) on them. That will need to be added.

3. Originator Response

[Carley Ries](#) Asst Dean - Online Learning / College of Engineering, *February 11, 2019 2:58pm*

4. Review - Curriculum Coordinator

Approved by [Janice Nave-Abele](#) Curriculum Coordinator / University Accreditation, *February 12, 2019 9:00am*

Comments

Janice Nave-Abele (Curriculum Coordinator) February 12, 2019 9:00am

Proposal has been moved forward for concurrent review by the Graduate School, Budgets and Fiscal Planning, and the Faculty Senate Curriculum Council. The appropriate individuals have been notified by email.

Janice
-APA

5. Review - Graduate School

Approved by [Stephanie Bernell](#) Associate Dean / Graduate School Admin, *February 12, 2019 12:02pm*

Comments

Stephanie Bernell (Graduate School) February 12, 2019 12:02pm

Good luck with this certificate. Do not hesitate to reach out to the Graduate School if you need assistance. Steph

6. Review - Budgets and Fiscal Planning Committee

Sent Back by [Andrew Ibarra](#) Dir-Physical Activity Program / Sch of Bio/Pop Hlth Sci, *February 26, 2019 10:43am*

Comments

Andrew Ibarra (Budgets and Fiscal Planning Committee) February 26, 2019 10:43am
Adjust document to reflect the correction of the \$10K

7. Originator Response

[Carley Ries](#) Asst Dean - Online Learning / College of Engineering, *February 26, 2019 10:52am*

Comments

Carley Ries February 26, 2019 10:52am
Excel spreadsheet has been edited to remove the \$10k correction.

8. Review - Budgets and Fiscal Planning Committee

Approved by [Andrew Ibarra](#) Dir-Physical Activity Program / Sch of Bio/Pop Hlth Sci, *February 28, 2019 4:29pm*

9. Review - Graduate Council Chair

Approved by [John Becker-Blease](#) Associate Dean / College of Business Dept, *April 16, 2019 8:21am*

10. Review - Curriculum Council Chair

Approved by [Allen Thompson](#) Associate Professor / Philosophy Department, *April 26, 2019 3:48pm*

11. Review - Faculty Senate Exec Committee

Pending Review

More Queued Reviews (4)

Faculty Senate; Provost /Academic Affairs; Academic Programs; Catalog Coordinator

Proposal

Proposal ID:104678
Type:New Certificate Program
Submission Date:February 26, 2019 10:52am
Comments:*None*

History

Active Version - Submitted February 26, 2019 10:52am

[Version 2](#) - Submitted February 11, 2019 2:58pm

[Version 1](#) - Submitted December 17, 2018 10:54am

Originators

| NAME | TITLE | DEPARTMENT/SCHOOL |
|-------------------------------------|-----------------------------|--------------------------|
| Dorthe Wildenschild | Professor | Sch of Chem/Bio/Envr Eng |
| Carley Ries | Asst Dean - Online Learning | College of Engineering |

Contacts

| NAME | TITLE | DEPARTMENT/SCHOOL |
|---------------------------------|------------------------|-------------------|
| Alfonso Bradoch | Dir-Dept & Studen Svcs | Extended Campus |
| Shannon Riggs | Director | Extended Campus |

| NAME | TITLE | DEPARTMENT/SCHOOL |
|-----------------------------|---------------------------|-------------------|
| Erica Curry | Academic Programs Manager | Extended Campus |

Proposal Details

College: College of Engineering

Department/School: School of Mechanical, Industrial, and Manufacturing Engineering

New Certificate Name: Engineering Management

Supporting Documents

| DOCUMENTS |
|---|
| <p>* Signed Transmittal Sheet </p> <p>Grad Certificate Engr Mgmt Transmittal Form.pdf (50.46 Kb added Feb 26, 2019 10:43 am)</p> |
| <p>* Executive Summary </p> <p>Proposal for Engineering Management Certificate Executive Summary.docx (12.20 Kb added Feb 26, 2019 10:43 am)</p> |
| <p>* Proposal </p> <p>Engr Mgmt Grad Certificate Proposal Nov 2018 Final.doc (167.50 Kb added Feb 26, 2019 10:43 am)</p> |
| <p>* Letters of Support </p> <p>OSU Ecampus Ecampus Letter of Support for Grad Cert Engr Mgmt.docx (12.72 Kb added Feb 26, 2019 10:43 am)</p> <p>MIME's Industry Advisory Board (IAB) MIME IAB Support Ltr.pdf (318.29 Kb added Feb 26, 2019 10:43 am)</p> |
| <p>* Accessibility Form </p> <p>Grad Certificate Engr Mgmt Accessibility Form.pdf (51.18 Kb added Feb 26, 2019 10:43 am)</p> |
| <p>* Library Evaluation </p> <p>Grad Cert Eng Mgmt Library Assessment SIGNED.pdf (84.10 Kb added Feb 26, 2019 10:43 am)</p> |
| <p>* Faculty CVs </p> <p>CVs Engineering Management.docx (11.22 Kb added Feb 26, 2019 10:43 am)</p> |
| <p>Other Attachments </p> <p>Engr Mgmt Budget Narrative.docx (18.07 Kb added Feb 26, 2019 10:43 am)</p> <p>Grad Cert in Engr Mgmt Ecampus MOU signed 2018.pdf (642.23 Kb added Feb 26, 2019 10:43 am)</p> |

[Cat 1 Proposal -Graduate Certificate in Engineering Management.pdf](#) (137.55 Kb added Feb 26, 2019 10:43 am)
Space Evaluation

LIAISONS

* **Liaisons**

Harriet Nembhard, School Head of MIME

Request: [Engineering Management Certificate Belinda Batten Support Ltr.pdf](#) (66.30 Kb added Feb 26, 2019 10:43 am)

Response: *None*

Lynn Paul, MIME Graduate Advisor

Request: [RE Engr Mgmt Grad Certificate Support Ltr Lynn Paul.pdf](#) (77.25 Kb added Feb 26, 2019 10:43 am)

Response: *None*

Alfonso Bradoch, Ecampus

Request: [Ecampus Letter of Support for Grad Cert Engr Mgmt.docx](#) (12.72 Kb added Feb 26, 2019 10:43 am)

Response: *None*

Erica Curry, Ecampus

Request: *None*

Response: *None*

Javier Calvo, MEng Engineering Mgmt Program Administrator

Request: *None*

Response: *None*

John Becker-Blease

Request: [Letter of Support from CoB for the Engineering Management Certificate Proposal.pdf](#) (73.82 Kb added Apr 04, 2019 1:09 pm)

Response: *None*

BUDGET INFORMATION

* **Budget Year 1**

[Engineering Management Grad Certificate Budget.xlsx](#) (23.61 Kb added Feb 26, 2019 10:49 am)

* **Budget Year 2**

[Engineering Management Grad Certificate Budget.xlsx](#) (23.61 Kb added Feb 26, 2019 10:50 am)

* **Budget Year 3**

[Engineering Management Grad Certificate Budget.xlsx](#) (23.61 Kb added Feb 26, 2019 10:50 am)

* **Budget Year 4**

[Engineering Management Grad Certificate Budget.xlsx](#) (23.61 Kb added Feb 26, 2019 10:50 am)



Proposal Transmittal Sheet

Full Category I and Abbreviated Category I Proposals

Submit proposals to: Office of Academic Programs, Assessment, and Accreditation
314 Waldo Hall – Oregon State University

Attach Transmittal Sheet; Proposal; Library Evaluation (performed by the Library for Full Category I proposals), Letters of Support (external to OSU); Liaison Correspondence (internal to OSU), External Review (new graduate program proposals), and Budget Information (both OSU and HECC budget sheets for Full Category I proposals and OSU budget sheets for Abbreviated Category I proposals)

Full Category I Proposals: New Programs

Final Approval--for new degrees, extension to OSU's branch campus, and substantive changes:
Higher Education Coordinating Commission (HECC)

Final Approval-- for new certificate programs: OSU Provost

Check one:

- ☐ New Degree Program
- ☒ New Certificate Program
- ☐ Extend Program to OSU Branch Campus
- ☐ Substantive Change

Abbreviated Category I Proposals: Other Proposals

Final Approval--for new academic units, renames, reorganizations, and, suspensions: OSU Provost

Final Approval-- for terminations: OSU Board of Trustees

Check one:

- ☐ **Establish:** new college, school, department or program
- ☐ **Rename:** change the name of an existing academic program or academic unit
- ☐ **Reorganization:** move the responsibility of an academic program from one academic unit to another; reorganize existing academic unit(s), including mergers and splits
- ☐ **Suspension (or Reactivation):** suspend an academic program (maximum period: three years)
- ☐ **Termination:** terminate an academic program or academic unit

Title of Proposal:

Graduate Certificate in Engineering Management

Proposed Effective Term:

Fall Term 2019

School/Department/Program:

College of Engineering

College:

College of Engineering

I certify that the above proposal has been reviewed by the appropriate Program, Department, School, and College administrators and committees. I approve this proposal.

12/04/18

Sign (Department/School Chair/Head; Director) Date

Dorte Wildenschild

Print (Chair/Head; Director)

12/04/18

Sign (College Dean)

Date

Scott Ashford

Print (College Dean)

Proposal for Graduate Certificate in Engineering Management

Executive Summary

The College of Engineering proposes to offer a Graduate Certificate in Engineering Management, an 18-credit graduate certificate that utilizes the existing resources in the MEng online program. Engineering Management bridges the gap between engineering and management.

The American Society for Engineering Management (EM) defines engineering management as “an art and science of planning, organizing, allocating resources, and directing and controlling activities that have a technological component.” Engineering Management focuses on the integration of hardware, software, people, processes, and interfaces to produce economically viable and innovative products and services while ensuring that all pieces of the enterprise are working together. As a multi-disciplinary field, Engineering Management draws on the areas of organizational behavior, macro ergonomics, organizational development, economics, quality management, information systems, operations and supply chain management, project management etc. to solve problems and create practical solution.

The certificate allows professionals to learn engineering-focused management skills, as they develop the soft skills to successfully lead teams and the credibility to influence executive decision makers without having to complete an entire graduate degree. The Graduate Certificate is a condensed Engineering Management certificate which includes all of the required courses of the MEng degree, but only (1) of the (8) elective options are required for the graduate certificate. The target student population are technical workforce who are interested in continuing education but might not be able to commit to a full MEng degree.



Institution: Oregon State University

College/School: College of Engineering

Department/Program Name: Engineering Management

Degree and Program Title: Graduate Certificate in Engineering Management

1. Program Description

- a. **Proposed CIP number:** 15.1501
- b. **Engineering/Industrial Management**

A program that focuses on the application of engineering principles to the planning and operational management of industrial and manufacturing operations, and prepares individuals to plan and manage such operations. Includes instruction in accounting, engineering economy, financial management, industrial and human resources management, industrial psychology, management information systems, mathematical modeling and optimization, quality control, operations research, safety and health issues, and environmental program management.

Summary Table

| |
|---|
| CIP (Classification of Instructional Program) #:15.1501 |
| CPS#: 104678 |
| College Code: 16 |
| Degree Types: Certificate |
| Program Level: Graduate |
| Academic Home: College of Engineering, OSU, Corvallis |
| Contact: Dorthe Wildenschild, Associate Dean of Graduate Programs, Dorthe.wildenschild@oregonstate.edu , 541 737 8059 and Carley Ries, Assistant Dean for Online Learning, carley.ries@oregonstate.edu , 541 737 1137 |
| Options: N/A |
| Areas of Concentration: Engineering Management |

| |
|---|
| Minors: N/A |
| Program Total Credit Hours: 18 |
| Pre-Professional/Professional Model: N/A |
| Thesis or Non-Thesis: N/A |
| Location: Distant Locations |
| Course Designator: IE and MFGE (existing) |
| Delivery Mode: Online via Ecampus |
| Enrollment Limitations: No enrollment limitation at this time. |
| Accreditation: N/A |
| Proposed Effective Date: Fall Term 2019 |
| Program Unique to Public Higher Education Institutions in Oregon: Engineering Management Graduate Certificate online as opposed to being an entire degree and this does NOT require any in-person attendance. |

c. **Course of Study**

Engineering Management Graduate Certificate

The Graduate Certificate in Engineering Management will include IE 571, IE 581, IE 582, IE 583 and one elective from the MEng course list for a total of either 18 or 19 credits depending on the elective. The requirements for admission to the Graduate Certificate program will be a 3.0 GPA, BEng or BS in STEM, Statement of Objective, and may be required to take the GRE if they received their undergraduate degree from a non-ABET accredited program.

Core Courses in Industrial Engineering (15 credits):

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

Critical issues in the management of engineering and high-technology projects are discussed. Time, cost, and performance parameters are analyzed from the organizational, people, and resource perspectives. Network optimization and simulation concepts are introduced. Resource-constrained project scheduling case discussions and a term project are included.

IE 581: Operations Management (4 credits):

Critical and current issues on the implementation of operations management strategies for the engineering manager. Includes aspects of operations in an engineering management environment such as work systems design, forecasting, strategy, facilities

location and design, management of quality and resources planning and management. Prerequisite: IE 582 with B or better.

IE 582: Introduction to Management for Engineers and Scientists (4 credits):

An introduction to concepts, tools, and practices necessary for a broad understanding of the roles of engineering and technical managers. A mix of research results, case studies, and experiential learning is used to bolster theories of management, with focus on technical organizations.

IE 583: Advanced Engineering Economic Analysis (4 credits):

Examines the economics dimension of engineering management, from costing techniques to financial analysis. Topics include economic planning, forecasting, and budgeting, and financial analysis for engineering and engineering management. Prerequisite: IE 582 with B or better.

Elective Courses in Industrial and Manufacturing Engineering (3-4 credits):

IE 584: System Engineering (4 credits):

This course provides an overview of systems engineering within engineering management practice. Principles of systems engineering are explored through traditional and contemporary hard and soft systems engineering techniques and practices, and through current future developments in the field. Prerequisite: IE 582 with B or better.

IE 585: Legal Aspects of Engineering and Engineering Management (3 credits):

This course is a survey of legal topics relevant to engineers, including basic of legal system, labor law, intellectual property, torts, and contracts. This is an introductory course, emphasizes on legal principles that can provide engineers with the ability to recognize legal issues that are likely to arise in the engineering profession and engineering management. Prerequisite: IE 582 with B or better.

IE 586/CCE 552 Project Risk Management (4 credits):

An introduction to the concept of project risk in producing constructed engineering projects. Course content includes project baselining, risk definition and identification, risk assessment and management techniques, risk control, risk response, and risk management.

IE 587: Management of Information Systems (4 credits):

An introduction to the management of information systems and their strategic importance in business. Topics covered include global e-business and collaboration, databases and information management, basics of telecommunications and wireless technology, security vulnerabilities of information systems, basics of business intelligence and business analytics, knowledge management and enhanced decision making. Prerequisite: IE 582 with B or better.

IE 588: Management of New Product Development (4 credits):

Introduces the new product development (NPD) process with the objective of understanding the underlying structure in NPD and exploring the methods to manage NPD processes by applying them to case studies and term project. The NPD process is investigated through its five key phases: (1) Opportunity identification/selection, (2)

Concept generation, (3) Concept/project evaluation, (4) Development, and (5) Launch. Prerequisite: IE 581 and IE 582 and IE 583 with B or better.

IE 589/CCE 554: Professional Responsibility and Ethics (3 credits):

An in-depth exploration of professional engineering ethics. Course content includes conceptual theoretical basis of ethics, ethics among professional organizations, ethical consideration of design, critical analysis of ethical situations, ethics in the workplace, and ethical considerations regarding the broader environment.

IE 590: Strategic Planning (4 credits):

This course provides an overview the strategic planning process from a variety engineering perspective. Variety engineering is explored via key management control theory concepts and through applying students' work experience. Prerequisite: IE 581 with B or better and IE 582 [B] and IE 583 [B].

MFGE 536: Lean Manufacturing Systems Engineering (4 credits):

The planning, evaluation, deployment, and integration of lean manufacturing theory and methods. Examines manufacturing processes/equipment and systems, e.g., planning/control, product design, supply chain resource management. Lecture/lab.

d. Manner in which the program will be delivered

All courses are currently offered online via Ecampus in conjunction with the Master of Engineering in Industrial Engineering with an option in Engineering Management (a fully online degree program). The certificate is designed to complement the degree program.

This certificate program is best suited to the working professional. The program's online modality provides the access needed to further the education of a working adult.

e. Adequacy and quality of faculty delivering the program

All courses in the programs will be developed and taught by OSU tenure track faculty or instructors who were recruited according to the same standards as all OSU faculty and instructors. Careful vetting will be carried out for any of the non-full time OSU faculty.

f. Adequacy of faculty resources

All faculty and instructors have already been assigned and are offering the online courses via the previously named MEng degree. All faculty are in the College of Engineering and School of Mechanical, Industrial and Manufacturing Engineering. The current director of the MEng program is a 0.3 FTE position to support the coordination of the program, and the graduate certificate will be a component of the degree due to utilizing the same course offerings/faculty.

| Faculty | | Degree | Rank | Status | Course |
|----------|--------------|---------------------------------------|---------------------|------------------|--------------------------------|
| Frances | Alston | PhD, University of Alabama Huntsville | Instructor | 9 Month, .40 FTE | MFGE 536 |
| Javier | Calvo-Amodio | PhD, Texas Tech University | Assistant Professor | 9 Month, 1.0 FTE | IE 591 |
| Chin | Eseonu | PhD, Texas Tech University | Assistant Professor | 9 Month, 1.0 FTE | MFGE 536 |
| Robin | Fuerbacher | PhD, Oregon State University | Assistant Professor | 9 Month, 1.0 FTE | IE 585 |
| Ken | Funk | PhD, The Ohio State University | Associate Professor | 9 Month, 1.0 FTE | IE 589/CCE 554 |
| David | Kim | PhD, University of Michigan | Associate Professor | 9 Month, 1.0 FTE | IE 584 |
| Neal | Lewis | PhD, Missouri Univ of S&T | Instructor | 9 Month, .40FTE | IE 583 |
| Joseph | Louis | PhD, Purdue Univ Main Campus | Assistant Professor | 9 Month, 1.0 FTE | IE 586/CCE 552 |
| Gana | Natarajan | PhD, Texas Tech University | Instructor | 9 Month, 1.0 FTE | IE 581, IE 582, IE 587, IE 589 |
| Ean | Ng | PhD, Texas Tech University | Assistant Professor | 9 Month, 1.0 FTE | IE 571 |
| David | Porter | PhD, University of Pittsburg | Associate Professor | 9 Month, 1.0 FTE | IE 587 |
| Jennifer | Wilby | PhD, University of Hull | Instructor | 9 Month, .40 FTE | IE 584, IE 590 |
| Charles | Winder | PhD, Texas Tech University | Instructor | 9 Month, .40 FTE | IE 582, IE 585, IE 588 |

g. Other staff

Graduate Certificate Administrator (0.2 FTE) will be needed to be the point person for Ecampus courses, instruction, and program support. However, this position is already supported by the MEng: Industrial Engineering with an option in Engineering Management online degree program. Advising and student inquiries will also be supported by current positions already supporting the MEng online students. No additional staff is needed.

Adequacy of facilities, library, and other resources

Support will be needed for student recruitment while partnering with Ecampus marketing which Ecampus has indicated they are willing to support. Existing staff and computing infrastructure will be able to handle the increased student load. There will be no increase with in-person library resources due to the program is fully online. A minor increase with students utilizing online library resources may occur, but no large impact on the library resources is expected.

h. Anticipated start date: Fall Term 2019

2. Relationship to Mission and Goals

a. The OSU mission statement reads:

“As a land grant institution committed to teaching, research and outreach and engagement, Oregon State University promotes economic, social, cultural and environmental progress for the people of Oregon, the nation and the world. This mission is achieved by producing graduates competitive in the global economy, supporting a continuous search for new knowledge and solutions and maintaining a rigorous focus on academic excellence...”

Within the engineering industry there is a need to create an educational pathway for engineers who are seeking additional education to further their careers. Access to the Graduate Certificate in Engineering Management in an online modality will allow working adults to further their education within a suitable schedule. As a land grant institution it is part of our mission to allow our graduates to achieve excellence in the form of additional education.

b. The Graduate Certificate in Engineering Management will promote economic growth and social progress through a transformative educational experience. The online Engineering Management Certificate will provide engineering professionals with a convenient access to outstanding educational content. Thus, the goals of OSU's strategic plan are well-

represented within this proposed program. This Graduate Certificate program is needed in the engineering industry to ensure a successful transition for engineers transitioning to a management role, and to self-identified engineers seeking to further their professional careers.

The proposed program will provide valuable credentials in engineering management and critical skills in leadership, project management, systems engineering, economic analysis, and process improvement. The certificate program is being created in response to the Industry Advisor Board (IAB) members' explicit request at the Fall 2014 IAB Meeting for a credentialing program in EM that requires shorter completion time than a full master of engineering program. By offering this program OSU will be expanding its reach across Oregon, throughout the Northwest region, and beyond.

3. Accreditation

- a. Northwest Commission on Colleges and Universities (NWCCU) and the Oregon State Board of Higher Education has authorized the University to offer undergraduate and graduate level certificates, baccalaureate, master's, doctorate and first professional degrees.

4. Need

- a. **Anticipated fall term headcount and FTE enrollment over each of the next five years.**

| Academic Year | Estimated Headcount | Estimated FTE | Cumulative Estimated Completions |
|---------------|---------------------|---------------|----------------------------------|
| 2019-20 | 12 | 12 | 11 |
| 2020-21 | 14 | 14 | 24 |
| 2021-22 | 15 | 15 | 38 |
| 2022-23 | 16 | 16 | 53 |
| 2023-24 | 18 | 18 | 70 |

- b. **Expected degrees/certificates produced over the next five years.**

Each student will typically complete the proposed graduate certificate program in one year. If an average of 14 complete the proposed certificate program per year during the first five years, as expected, then a total of 70 will complete the proposed certificate program by the end of year five. (See table.)

- c. **Characteristics of students to be served (resident/nonresident/international; traditional/ nontraditional; full-time/part-time, etc.).**

Distance learning is optimal for states who have many rural communities. The online modality of this certificate will allow many potential students to participate in higher education who would traditionally be excluded due to location. By delivering this graduate certificate online allows educational attainment by many. This not only enhances the state, but the region overall. Thus professionals are able to enhance their education by making it convenient for them to study when it best suits their schedules.

- d. **Evidence of market demand.**

Education Advisory Board (EAB) conducted a market and labor research project around the need for Engineering Management educational programs. They indicated Amazon

and Microsoft hire most engineering managers in the Pacific Northwest. Other companies such as: Expedia, Nike, Intel and Jacobs Engineering all indicated a need for engineering managers. National job postings confirm that more engineers are moving into management positions. Employers are hiring more engineering managers each year and in the past year alone 48,974 Engineering Management positions were posted within the U.S. There has been a 7.1% growth in the past year for such positions.

e. What are the expected career paths for students in this program?

The majority of students in this proposed program would be within an engineering field already and are seeking to move into a management role. A smaller portion of students would be recent graduates of an ABET accredited undergraduate engineering program who wish to add an additional graduate certificate to their résumé.

5. Outcomes and Quality Assessment

a. Expected learning outcomes of the program.

The GLO for individual courses can be found here:

<http://mime.oregonstate.edu/industrial-engineering-courses-oregon-state-school-mime>

Learning outcomes for each of the individual courses will be provided by the instructors of the course, who will have the primary responsibility to see that these outcomes are achieved. The overall goal of the Engineering Management Graduate Certificate is to prepare engineers and scientists who are conversant in the language and practices of their respective technical fields, and would like to advance into leadership and managerial roles.

The curriculum will equip practicing engineers and scientists with the knowledge and skills necessary to effectively lead and manage technical resources to accomplish complex technical tasks. Learners will develop the knowledge and skills they need to synthesize multiple perspectives (economic, technical, and human resource) when making managerial decisions. Learners will have the knowledge and skills to react to changes in domestic and international markets, workforce dynamics, and emerging technologies and to plan for the future success of their enterprises.

Graduate Certificate learners will have the knowledge and skills to:

Apply management, leadership, communication and interpersonal skills to effectively function on, and to lead multi-disciplinary teams.

b. Methods by which the learning outcomes will be assessed and used to improve curriculum and instruction.

Course level assessments: Learning outcomes will be assessed in each course by assignments, course exams, term papers and projects. At the end of each term, in the eSET course evaluation, students will be asked to self-assess their level of proficiency with regards to the course learning outcomes.

Feedback received from the course level assessment will be compiled and transmit to the course developer. Course edits will be made for each term after student feedback is received. However, every three years, each course will be assessed for redevelopment per the MOU agreement with Ecampus to fully redevelop any online course every three years.

Feedback received from program level assessment are reviewed by the EM program faculty on an annual basis to determine the course of action for improvement.

The Program Coordinator plans to survey the graduates after (5) years post-graduation.

c. Nature and level of research and/or scholarly work expected of program faculty; indicators of success in those areas.

The faculty who developed these courses are full-time OSU faculty members, so the expectations would be the same as those of other OSU faculty. Therefore, their published research would be an indicator of their success.

6. Program Integration and Collaboration

a. Closely related programs in this or other Oregon colleges and universities.

To date there are two programs offered on-campus at Oregon Institute of Technology (OIT) and at Portland State University (PSU). However, they are Master of Science degrees and the focus of both OIT and PSU's programs are on the management of technology, not the management of a technical workforce. Because both of these programs are not comparable to the proposed Engineering Management graduate certificate, nor online, this program will assist even more students within the region. There are no online graduate certificates offered in the area for Engineering Management.

There are no other similar programs being offered by another Oregon institution as a certificate or online. As the courses were outlined previously, the Graduate Certificate represents a collaboration between multiple departments within the School of Mechanical, Manufacturing and Industrial Engineering and the School of Civil and Construction Engineering. These courses are already developed and offered online via the MEng online degree.

b. Ways in which the program complements other similar programs in other Oregon institutions and other related programs at this institution. Proposal should identify the potential for collaboration.

This proposed online Graduate Certificate program complements the current MEng in Industrial Engineering with an option in Engineering Management online degree program. The collaboration currently exists between two of the schools within the College of Engineering. All courses are currently offered online for the graduate degree.

c. Potential impacts on other programs.

This proposed Graduate Certificate in Engineering Management will increase student enrollments in the core courses offered online for the MEng in Industrial Engineering with an option in Engineering Management degree. Students who are seeking a graduate certificate will have an opportunity to advance their education, and if in the future the graduate certificate students want to seek an MEng degree, they will have met the core requirements for the online MEng degree.

7. External Review

There has been a market assessment for the Graduate Certificate program both regionally and nationally to understand the possible demand for such an online certificate. The research conducted has indicated there is an increase in demand for Engineering Management skilled professionals as well as nothing offered online within our region. With the present demand and the flexibility of online program delivery, this would not only support the engineering professionals within the region, but would also expand the reach of OSU within the state, region and beyond.

N/A No formal external review is required for new certificate programs.

DATE: August 7, 2018

TO: Carley Ries
Assistant Dean of Online Learning
College of engineering
carley.ries@oregonstate.edu

FROM: Lisa Templeton
Associate Provost
Extended Campus
lisa.l.templeton@oregonstate.edu

SUBJECT: Letter of Support for Category 1 proposal to create a Graduate Certificate in Engineering Management

OSU Extended Campus fully supports the establishment of a new Graduate Certificate program in Engineering Management. Ecampus is supportive of this program as an expansion of the Engineering offerings available via fully online delivery.

Upon curricular approval Ecampus will provide assistance with: marketing, course design and development; faculty training in Canvas and online course delivery; and supporting services for students at no cost to the college or department. Tuition revenue will be disbursed to the program according to the established Ecampus revenue-share model.

We look forward to continuing Ecampus' relationship with the College of Engineering in its efforts to expand access to OSU's educational offerings to broader audiences.



Oregon State University
College of Engineering

**School of Mechanical, Industrial,
& Manufacturing Engineering**

204 Rogers Hall
Corvallis, Oregon 97331
P 541-737-3441
F 541-737-2600
mime.oregonstate.edu

October 5, 2018

Harriet B. Nembhard, PhD
School Head of Mechanical,
Industrial and Manufacturing Engineering
College of Engineering
Oregon State University

Dear Dr. Nembhard,

As members of the MIME Industry Advisory Board (IAB) it is our service to ensure we support curriculum enrichment and opportunities for a variety of students within the School of MIME. As professional engineers, we realize there needs to be innovative opportunities for engineers to further their education while being currently employed. We commend the efforts of the faculty and staff at the College of Engineering School of MIME to create the Engineering Management graduate certificate option, as a beginning program for engineers needing to learn management skills. Because this certificate can be applied to the current online MEng degree, it seems only suitable to have this new graduate certificate opportunity online as well. We also believe this graduate certificate program, focused on engineering management coursework, will provide a significant opportunity to educate professional engineers in a multitude of engineering industries. This graduate certificate program is fully supported by the members of the MIME IAB.

Sincerely,

Ron Sarazin
Chair
MIME Industry Advisory Board



ACCESSIBILITY

New Program Proposal (Degree or Certificate)

Guidelines for Addressing Accessibility

Sections 503 and 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990 (ADA), as amended by the ADA Amendments Act of 2008 prohibits discrimination on the basis of disability. The Rehabilitation Act and the ADA require that no qualified person shall, solely by reason of disability, be denied access to, participation in, or the benefits of, any program or activity operated by the University. Each qualified person shall receive the reasonable accommodations needed to ensure equal access to employment, educational opportunities, programs, and activities in the most integrated setting feasible.

*For questions and assistance with addressing access, please contact:
the Office of Disability and Access Services (737-4098), or
the Office of Affirmative Action and Equal Opportunity (737-3556).*

Title of Proposal:

Date:

Graduate Certificate in Engineering Management

11/29/2018

School/Department/Program:

College:

College of Engineering

College of Engineering

- ☐ Accessibility (<http://oregonstate.edu/accessibility/policies>)
- ☐ Faculty Guidelines (<http://ds.oregonstate.edu/facultyguidelines>)
- ☐ Information Technology Guidelines (<http://oregonstate.edu/accessibility/ITpolicy>)

By signing this form, we affirm that at we have reviewed the listed documents and will apply a good faith effort to ensure accessibility in curricular design, delivery, and supporting information.

Sign (School/Department/Program Director/Chair/Head)

Dorthe Wildenschild

12/3/2018

Print (School/Department/Program Director/Chair/Head)

Date

**OSU Libraries
Collection Development**

Library Evaluation for Ecampus Program Proposal

Graduate Certificate in Engineering Management
Title of Proposal

Engineering
College

The subject librarian responsible for collection development in the pertinent curricular area has assessed whether the existing library collections and services can support the proposal. Based on this review, the subject librarian concludes that present collections and services are:

- ☐ inadequate to support the proposal (see budget needs below)
☐ marginally adequate to support the proposal
☒ adequate to support the proposal

Estimated funding needed to upgrade collections or services to support the proposal (details are attached)

Year 1:

Ongoing (annual):

Comments and Recommendations:


Date Received: 12/4/18

Date Completed: 12/14/18

Laurel Kristick
Collection Assessment Librarian



Signature

Kerri Goergen-Doll
Head of Acquisition & Resource Sharing


Signature

12/14/18
Date

Faye A. Chadwell
Donald and Delpha Campbell
University Librarian and
OSU Press Director


Signature

12/14/18
Date

Oregon State University Libraries Evaluation of the Collection supporting a Proposal to Initiate a Graduate Certificate Engineering Management

This Oregon State University Libraries and Press (OSULP) assessment reviews collections and services that support this proposed online graduate certificate. As the proposed certificate does not include any new courses, this review will focus on how OSULP can support the distance learners in this program.

Summary of Recommendations

The library collections and services are adequate to support the proposed program.

OSULP Collections

The growing availability of e-books makes it possible to expedite access to more information from various locations. This obviously better serves our distance learners. OSULP has a collection of over 800,000 e-books, including over 4,300 business management books and almost 1,800 engineering management titles.

OSU students are served well by the OSULP investment in the Orbis/Cascades Alliance, a consortium of 39 academic libraries in Oregon, Washington, and Idaho, whose combined collection is substantial. Students and faculty can request monographs from the collections of all libraries in the Orbis Cascades Alliance through the Summit catalog. E-Campus covers the costs of delivering print materials from the OSULP collections that are requested by students in this program.

The majority of OSULP subscriptions are for electronic journals, so students can access articles from any location through their official OSU account. The OSULP electronic collections include journals and conference proceedings published by a number of engineering societies, including IEEE, ACM, ASTM, ASCE, ASME, and SAE.

There is concern that with regular price increases to our licenses and a flat budget that access may be eroded over time. The OSULP already have sacrificed timely access to some titles in favor of an embargo period to cut costs.

Print articles located in the OSULP collections may be requested through the Scan & Deliver service, which provides PDFs of the requested articles. For materials not available in OSULP collections or through Summit, Interlibrary Loan (ILL) is available to borrow items from other libraries.

Key library services & librarian expertise

Library faculty help students develop information literacy skills—the ability to locate, evaluate, and use information effectively—and help students understand their lifelong roles and responsibilities as both consumers and creators in the information ecosystem. More information on library instruction is available at <https://library.oregonstate.edu/instruction-services>.

The Library Liaison for Ecampus library services is Stefanie Buck. The Library Liaison for the College of Engineering is Lindsay Marlow. Liaisons are library faculty members who monitor the strategic directions and priorities of colleges and programs, and are a conduit to the expertise and services of OSU Libraries. They promote OSULP expertise and collaborate with Library Experts to integrate and leverage that expertise throughout the OSU Community.

Laurel Kristick
Collection Assessment and Science Librarian
14 December 2018

CVs will be provided as request or needed.

Budget Narrative

Courses

The proposed Graduate Certificate program will involve (4) required core courses and a range of potential electives.

| Course | Course Title | Credits |
|-------------------------|--|--------------|
| IE 571 | Project Management in Engineering | 3 |
| IE 581 | Operations Management | 4 |
| IE 582 | Intro to Management for Engineers and Scientists | 4 |
| IE 583 | Advanced Engineering Economic Analysis | 4 |
| Elective | One elective is required | 3-4 |
| | Total Credits | 18-19 |
| Elective Options | | |
| IE 584 | System Engineering | 4 |
| IE 585 | Legal Aspects of Engineering and Engr Mgmt | 3 |
| IE 586/CCE 552 | Project Risk Management | 4 |
| IE 587 | Management of Information Systems | 4 |
| IE 588 | Management of New Product Development | 4 |
| IE 589/CCE 554 | Professional Responsibility and Ethics | 3 |
| IE 590 | Strategic Planning | 4 |
| MFGE 536 | Lean Manufacturing Systems Engineering | 4 |

All four of the required core courses and one of any of the multiple electives are all currently offered online. All of the courses listed above are currently offered online for the MEng Industrial Engineering option in Engineering Management degree program. This certificate is utilizing the same online courses and faculty as the MEng graduate program.

One-time Budget

There are no projected one-time projected expenses for this proposed Graduate Certificate program. There are also no one-time resources already allocated to this proposed Graduate Certificate program.

Recurring Budget

College of Engineering projects a cost of \$40,000 to cover half of the faculty/instructor salaries associated with offering each of the 5 courses twice a year. The reason the budget is only projecting half of the salaries is the MEng Industrial Engineering with an

option in Engineering Management Graduate Online Degree offers the same courses. This proposed Graduate Certificate program is complimenting the currently offered online Graduate MEng Degree program. The proposed Graduate Certificate program budget is projecting half of the students enrolled in the courses are seeking the proposed Graduate Certificate program and not the online MEng degree.

Salaries were projected at a 3% annual increase. OPE is budgeted at 50% of salary.

Services and Supplies were projected at \$1,000/annually to allow for any travel to local industries to recruit for the program or other expenses. In the first year this cost will also include the creation of a microsite on the COE website, create a flyer, etc.

Recurring Revenues and other Resources

Revenue is estimated on the model currently utilized by Ecampus graduate courses, which pays COE 80% of tuition (\$328) + \$55 (differential tuition) = \$388/SCH. Each student will take 5 courses equal to 18-19 credits. For simplification the budget has been estimated at the tuition rate of 18 graduate credits. There will be some instances where the students complete 19 credits for the proposed Graduate Certificate program due to the elective the student completed. In addition, the College of Engineering will obtain revenue from certificate completions, at an estimated \$3000/completion. No expected tuition increases are projected.

Goals

One of the main goals of this proposed Graduate Certificate is to allow student to enroll into an Engineering Management program without committing oneself to an entire degree. The proposed Graduate Certificate program is allowing for students to fulfill an educational need, as well as create exposure for the online MEng Industrial Engineering option with Engineering Management degree. If this program exceeds the listed projections, then COE may do one or more of the following:

- Expand marketing effort beyond what Ecampus and COE currently provide
- Hire additional support for student support (advisors, coordinator, additional TAs)
- Offer additional sections of the courses required to complete the proposed program



Division of Extended Campus

Oregon State University
4943 The Valley Library
Corvallis, Oregon 97331

M.Eng Industrial Engineering Addendum

Graduate Certificate in Engineering Management

College of Engineering
Prepared 12/5/18

OSU Ecampus welcomes the opportunity to partner with College of Engineering to make an Graduate Certificate in Engineering Management, available to students fall 2019.

The following addendum provides an overview of the partnership expectations of the College of Engineering, hereafter referred to as "the College", and the support and services Ecampus provides.

Program coordination

The College agrees to ensure there is sufficient coordination between the department and Ecampus. It is the responsibility of the academic unit to provide for ongoing administrative support for these options.

Program coordinator:

Carley Ries, Assistant Dean of Online Learning, College of Engineering

Ecampus Support

Ecampus will assign the academic programs manager to be the key contact for the College. The academic programs manager will work with program personnel to coordinate efforts within Ecampus, The College will ensure a continuous relationship with the academic programs manager and keep them informed of any impactful changes within the program.

Marketing and Enrollment Services (MES)

Whether it's through the Ecampus website, an inspiring story or a friendly phone call or email, the Ecampus Marketing and Enrollment Services team helps connect prospective online students with Oregon State.

- Upon curricular review and approval, the Ecampus MES team will develop a program microsite (hosted on the Ecampus website) and will follow up with prospects through individualized and automated communications.

Course delivery

Ecampus provides scheduling and proctoring support for course delivery every term.

Term of Offer: Students may enroll in the online options starting in **fall 2019**

Program maintenance

A major factor in continued excellence is the maintenance and refreshment of courses and the Engineering Management program. As part of maintenance, the College commits to the following:

- Course redevelopment cycles every 3-5 years to ensure course material is current, relevant, and maintains curricular alignment (Ecampus has a proposal process and offers course development funding, training, and support for the redevelopment of courses.)
- Regular check-ins, coordinated through the Ecampus academic programs manager, to ensure marketing and recruitment, advising, student services, and course offerings are current and effective
- Communicate with Extended Campus' academic programs manager as changes to the program are being proposed

Signatures

Signatures below indicate acceptance of these terms and conditions. Signatures also indicate that identified personnel (coordinators, advisors, course developers, Ecampus staff, etc.) will be notified of their responsibility in meeting the expectations outlined within this MOU.

DocuSigned by:
Belinda Batten
8A88062E62D3451...

12/11/2018 | 13:56:35 PST

Belinda Batten, Executive Associate Dean
College of Engineering

Date

DocuSigned by:
Lisa Templeton
F2AE947BBB704AC

12/11/2018 | 14:03:07 PST

Lisa L. Templeton, Associate Provost
OSU Ecampus

Date



Oregon State
University

Capital Planning and Development

Oregon State University
3015 SW Western Blvd
106 Oak Creek Building
Corvallis, Oregon 97331

P 541-737-5412
F 541-737-4810
cpd.oregonstate.edu

2/11/2019

Carley Ries
Assistant Dean of Online Learning
College of Engineering
Oregon State University
Corvallis, OR 97331

Dear Carley,

We appreciate the opportunity to review the College of Engineering proposal to offer a new instructional program leading to a Graduate Certificate in Engineering Management. Per our review of the documentation provided, we understand that the program will require no immediate additional space to accommodate new faculty, instructional, research, student support and administrative functions.

From the Cat 1 proposal all core curriculum courses will be taught online with no on-campus classroom space necessary. Existing faculty will be used to teach the courses need to attain this Graduate Certificate in Engineering Management.

Given that your proposal outlines that no new space will be need to complete the Graduate Certificate in Engineering Management, Capital Planning and Development supports this proposal.

Sincerely,

Libby Ramirez
University Architect/Manager, Capital Resources
Oregon State University

Eric Smith
Management Analyst / Space Management
Oregon State University

From: [Batten, Belinda A](#)
To: [Ries, Carley W](#)
Subject: Engineering Management Certificate
Date: Tuesday, January 29, 2019 11:30:51 AM

Dear Carley,

This email is to express college support for the proposed Engineering Management Certificate. We expect that this certificate will have broad interest from practicing engineers looking to gain stackable credentials in this topic area, and could potentially act as a feeder into our masters programs.

Thank you for leading the proposal effort to establish this program.
Belinda

Belinda A. Batten, PhD
Executive Associate Dean
College of Engineering
Oregon State University
101 Covell Hall
Corvallis, OR 97331
V: 541.737.9492

From: [Paul, Lynn](#)
To: [Ries, Carley W](#)
Subject: RE: Engr Mgmt Grad Certificate
Date: Tuesday, January 29, 2019 11:58:26 AM

Carley,

You asked if I would send an e-mail supporting the Engineering Management Graduate Certificate which is working its way through the Cat I system right now. I am happy to do that.

Within the last few days I've had four different prospective students contact me about our Engineering Management online degree program. I had a face to face meeting with one of those people this morning, as she is an employee of HP, right here in Corvallis. Holding a BS in Microbiology and working as a lab technician at HP, she continually finds herself drifting into leadership rolls. In fact, she has been tapped by one of HP's Directors to be in their project manager development program. He told her that HP is desperate for more, excellent project managers. She did not even know that engineering project management was a career field until recently when her immediate supervisor encouraged her to look into getting more training in the area that seemed a natural fit for her abilities and affinities. She first looked into getting an MBA in Technology Management but was not inspired by the programs she found. One of her coworkers at HP pointed her toward our online engineering management-focused MEng degree in industrial engineering, and it seemed the perfect set of courses to prepare her for this new direction. She's applying for the program for Fall 2019. I asked her if she'd find an 18-credits certificate more appealing than a 45-credit MEng degree, and she commented that it would be nice to be certified along the way since 45 credits may take her upwards of four years to complete and she could have the certificate in less than a year and a half.

Hopefully, this anecdote helps to highlight the interest in and relevance of OSU's and MIME's engineering management online certificate and degree program.

Lynn

Lynn A. Paul

Head Advisor, Graduate Programs

Chair, Awards Committee

School of Mechanical, Industrial & Manufacturing Engineering

Oregon State University

From: Ries, Carley W <carley.ries@oregonstate.edu>
Sent: Tuesday, January 29, 2019 8:46 AM
To: Paul, Lynn <Lynn.Paul@oregonstate.edu>
Subject: Engr Mgmt Grad Certificate

Hi Lynn,

Would you be willing to send me a support email for the Engineering Management Graduate Certificate? It's working its way through the long process but I was told it would be good to get a

few more support letters/emails for the program from people within MIME. It doesn't need to be in-depth, just stating there is a market and how it would help students.

Thank you,
Carley

Regarding CPS Proposal #104678 (<https://secure.oregonstate.edu/ap/cps/proposals/view/104678>).

The College of Business supports this proposal.

John R. Becker-Blease

Associate Dean of Graduate Student Development

Associate Professor of Finance

College of Business | Oregon State University

326 Austin Hall | Corvallis, Ore. 97331

541-737-6061 | john.beckerblease@oregonstate.edu

business.oregonstate.edu

OSU Internal Budget Outline Form

Estimated Costs and Sources of Funds for Proposed Program

Total new resources allocated to the Proposed Program, if any.

If no change in resources is required, the budgetary impact should be reported as zero.

PROGRAM TITLE: Graduate Certificate in Engineering Management

BUDGET PERIOD: From FY 2019-20 to FY 2022-23

Business Center BEBC Date
Name and Title of Reviewer

| | Recurring | | | |
|---|----------------|----------------|----------------|----------------|
| | Fiscal Year 1 | Fiscal Year 2 | Fiscal Year 3 | Fiscal Year 4 |
| Personnel | | | | |
| Faculty, Tenured/Tenure-track | 40,000 | 41,200 | 42,436 | 43,709 |
| Faculty, fixed-term | | | | |
| Sub-total, Faculty | 40,000 | 41,200 | 42,436 | 43,709 |
| Graduate Assistants | | | | |
| Support Staff | | - | - | - |
| Fellowship/Scholarship | | | | |
| OPE | 20,000 | 21,218 | 21,855 | 22,510 |
| Personnel Subtotal | 60,000 | 62,418 | 64,291 | 66,219 |
| Other Expenses | | | | |
| Library, Printed | | | | |
| Library, Electronic | | | | |
| Services & Supplies | 1,000 | 1,000 | 1,000 | 1,000 |
| Capital Equipment | | | | |
| Other Resources Subtotal | 1,000 | 1,000 | 1,000 | 1,000 |
| Physical Facilities | | | | |
| Construction | | | | |
| Major Renovation | | | | |
| Other Expenses | | | | |
| Physical Facilities Subtotal | - | - | - | - |
| Total Cost of Program | | | | |
| | 61,000 | 63,418 | 65,291 | 67,219 |
| Resources | | | | |
| Current Budget, unit | | | | |
| Tuition (e campus, differential) | 109,824 | 132,792 | 139,776 | 149,760 |
| Institutional Reallocation from other budgetary units | | | | |
| Special State Appropriation | | | | |
| Federal Funds and other Grants | | | | |
| Fees/Sales | | | | |
| Foundation Endowment | | | | |
| Tuition remission (GA support) | | | | |
| Other, describe: | | | | |
| eCampus Support for Cert, Coord. | | | | |
| eCampus Travel Support | | | | |
| Total Resources | 109,824 | 132,792 | 139,776 | 149,760 |

Note: Please include budget narrative describing items listed above.

Recurring

OSU Internal Budget Outline Form

Estimated Costs and Sources of Funds for Proposed Program

Total new resources allocated to the Proposed Program, if any.

If no change in resources is required, the budgetary impact should be reported as zero.

PROGRAM TITLE: Graduate Certificate in Engineering Management

BUDGET PERIOD: From FY 2019-20 to FY 2022-23

Business Center BEBC Date
Name and Title of Reviewer

| | One-Time | | | |
|---|---------------|---------------|---------------|---------------|
| | Fiscal Year 1 | Fiscal Year 2 | Fiscal Year 3 | Fiscal Year 4 |
| Personnel | | | | |
| Faculty, Tenured/Tenure-track | - | | | |
| Faculty, fixed-term | | | | |
| Sub-total, Faculty | - | - | - | - |
| Graduate Assistants | | | | |
| Support Staff | - | | | |
| Fellowship/Scholarship | | | | |
| OPE | - | | | |
| Personnel Subtotal | - | - | - | - |
| Other Expenses | | | | |
| Library, Printed | | | | |
| Library, Electronic | | | | |
| Services & Supplies | | | | |
| Capital Equipment | | | | |
| Other Resources Subtotal | - | - | - | - |
| Physical Facilities | | | | |
| Construction | | | | |
| Major Renovation | | | | |
| Other Expenses | | | | |
| Physical Facilities Subtotal | - | - | - | - |
| Total Cost of Program | | | | |
| | - | - | - | - |
| Resources | | | | |
| Current Budget, unit | - | | | |
| Tuition (e campus, differential) | - | | | |
| Institutional Reallocation from other budgetary units | | | | |
| Special State Appropriation | | | | |
| Federal Funds and other Grants | | | | |
| Fees/Sales | | | | |
| Foundation Endowment | | | | |
| Tuition remission (GA support) | | | | |
| Other, describe: | | | | |
| | | | | |
| | | | | |
| Total Resources | - | - | - | - |

Note: Please include budget narrative describing items listed above.

One-Time

OSU Internal Budget Outline Form

Estimated Costs and Sources of Funds for Proposed Program

Total new resources allocated to the Proposed Program, if any.
If no change in resources is required, the budgetary impact should be reported as zero.

PROGRAM TITLE: Graduate Certificate in Engineering Management

BUDGET PERIOD: From FY 2018-19 to FY 2021-22

Business Center
Name and Title of Reviewer

BEBC

Date
Signature of Reviewer

| | Total | | | |
|---|---------------|---------------|---------------|---------------|
| | Fiscal Year 1 | Fiscal Year 2 | Fiscal Year 3 | Fiscal Year 4 |
| Personnel | | | | |
| Faculty, Tenured/Tenure-track | 40,000 | 41,200 | 42,436 | 43,709 |
| Faculty, fixed-term | - | - | - | - |
| Sub-total, Faculty | 40,000 | 41,200 | 42,436 | 43,709 |
| Graduate Assistants | - | - | - | - |
| Support Staff | - | - | - | - |
| Fellowship/Scholarship | - | - | - | - |
| OPE | 20,000 | 21,218 | 21,855 | 22,510 |
| Personnel Subtotal | 60,000 | 62,418 | 64,291 | 66,219 |
| Other Expenses | | | | |
| Library, Printed | - | - | - | - |
| Library, Electronic | - | - | - | - |
| Services & Supplies | 1,000 | 1,000 | 1,000 | 1,000 |
| Capital Equipment | - | - | - | - |
| Other Resources Subtotal | 1,000 | 1,000 | 1,000 | 1,000 |
| Physical Facilities | - | - | - | - |
| Construction | - | - | - | - |
| Major Renovation | - | - | - | - |
| Other Expenses | - | - | - | - |
| Physical Facilities Subtotal | - | - | - | - |
| Check math | - | - | - | - |
| Total Cost of Program | 61,000 | 63,418 | 65,291 | 67,219 |
| Resources | | | | |
| Current Budget, unit | - | - | - | - |
| Tuition (e campus, differential) | 109,824 | 132,792 | 139,776 | 149,760 |
| Institutional Reallocation from other b | - | - | - | - |
| Special State Appropriation | - | - | - | - |
| Federal Funds and other Grants | - | - | - | - |
| Fees/Sales | - | - | - | - |
| Foundation Endowment | - | - | - | - |
| Tuition remission (GA support) | - | - | - | - |
| Other, describe: | - | - | - | - |
| eCampus Support | - | - | - | - |
| eCampus Travel Support | - | - | - | - |
| Total Resources | 109,824 | 132,792 | 139,776 | 149,760 |
| check math | 109,824 | 132,792 | 139,776 | 149,760 |

Note: Please include budget narrative describing items listed above.

Total