<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:10 – 11:00 am</td>
<td><strong>Action</strong>&lt;br&gt;1. Approve Minutes of the March 19, 2015 meeting</td>
</tr>
<tr>
<td>9:15 – 9:25</td>
<td><strong>Information/Discussion</strong>&lt;br&gt;2. Announcements&lt;br&gt;A. Chair of the Graduate Council</td>
</tr>
<tr>
<td>9:25 – 9:35</td>
<td>B. CCGA Representative&lt;br&gt;9:35 – 9:45 C. Graduate Student Council Representative&lt;br&gt;9:45 – 9:55 D. Dean of the Graduate Division</td>
</tr>
<tr>
<td>9:55 – 10:10</td>
<td><strong>Discussion/Action</strong>&lt;br&gt;3. Courses and Programs Subcommittee&lt;br&gt;A. Approval of Program Changes:&lt;br&gt;1. SoBA MPAc – change to admission requirements – returned&lt;br&gt;2. MSOL – proposed changes to specializations</td>
</tr>
<tr>
<td>10:10 – 11:00</td>
<td>4. Benchmarks for Graduate Programs form</td>
</tr>
</tbody>
</table>
Graduate Council  
Meeting Minutes  
March 19, 2015  
220 University Office Building

Present:  
David Lo, Chair, School of Medicine  
Tom Payne, Vice Chair, Computer Science & Engineering  
Alicia Arrizon, Gender & Sexuality Studies  
Wendy Ashmore, Secretary, Anthropology  
Malcolm Baker, Art History  
Michael Coffey, Plant Pathology & Microbiology  
Ryan Julian, Chemistry  
Chris Laursen, Political Science  
Rene Lysloff, C&P Chair, Music  
Rollanda O’Connor, GSOE  
Rick Redak, Fellowships Chair, Entomology  
Amit Roy Chowdhury, Electrical & Computer Engineering  
Jorge Silva-Risso, SoBA  
Joe Childers, Graduate Dean (ex-officio)  
Preston Williams, GSA Student Representative  
Linda Scott, Graduate Division

Absent:  
Ted Garland, Jr., Biology  
John Kim, CCGA Rep., Comparative Literature & Foreign Languages

Approval of Minutes  
The minutes from the February 19, 2015 meeting were unanimously approved as written.

Chair’s Announcements  
Chair Lo informed the committee that all program reviews for this year have been completed and the extramural reviewers’ reports have been received.

Other Announcements  
CCGA Representative, John Kim – Professor Kim was absent.

GSA Student Representative, Preston Williams – Mr. Williams mentioned items that were discussed at the last Graduate Council meeting – he indicated that students would like to see Skype used for dissertation defenses only in extreme circumstances; students agree with the policy having more regulations. Students are also in agreement with the policy being created that says students are responsible for finding a PI, as long as the policy states that the program will do everything possible to help, but it is ultimately the student’s responsibility. Mr. Williams informed the Council that President Napolitano hosted a meeting with graduate students in which NRST, PDST and graduate student housing were discussed. Graduate students would like to see international students on the same page as domestic students in regards to NRST.
Graduate Dean Joe Childers – Dean Childers mentioned the University’s new funding model for international NRST. Dean Childers has proposed the campus cover international NRST in the same way domestic NRST is covered as long as the student is within normative time to candidacy for their program. This means all students will be pursuing candidacy at the same rate. If a student were to fall out of the time frame to candidacy someone would be responsible for the NRST, regardless of the reason. This new plan can be used as part of the fellowship package. This new funding model may mean an overall budget reduction to Graduate Division’s budget. Currently, there is $3 million slotted for covering international NRST in the Graduate Division budget. Dean Childers will look at how much was actually spent on international NRST and reduce that amount from his budget. Some of the NRST funds are used to create better funding packages for domestic students. With the new plan, some programs will see their per student averages decrease, especially programs that are heavily reliant on international students. However, since all international students will be covered, not going against the programs per student average, the effect will actually be an increase. There are 162 NRT units allocated to Dean Childers – units are about $20,000 each, approximately half are allocated to Engineering, the remainder is distributed to the rest of the campus. Dean Childers does not know how this will work for current students. He does not think retroactively adjusting awards will work. If there are problems with students who need more time to advance to candidacy and are not covered by their original allocation, they would be handled ad hoc.

The campus is moving toward a once per year budget process. Therefore, Dean Childers will be meeting with programs earlier in the year to finalize budget requests in the Spring.

WASC – Chair Lo, Associate Dean Esterling, and Dean Childers met with the VP for Undergraduate Education and his staff about WASC requirements for graduate programs. It was agreed that Graduate Council will work out the details required by WASC in the graduate program review process. Chair Lo indicated that the Council will create a checklist that each program will complete as they come up for review. This checklist will include how programs do assessments; each program will be able to set their own goals for students in their program. The checklist will be easy to complete and will be added to the review eBinder.

Dean Childers mentioned that cluster hires are moving forward and being reviewed this weekend. The review group will meet next week about the proposals.

Grad Slam is coming up in May. Dean Childers urged the Council to come watch at least one of the rounds.

Courses and Programs
Graduate Council voted to approve/return the following program changes as indicated:

1. Geological Sciences change to course work requirements – approved.
2. Creative Writing & Writing for the Performing Arts – change to thesis – approved.
3. School of Public Policy – Addition of course requirements – approved.

Systemwide Senate Review - Proposed Amendments to Senate Bylaw 182 - University Committee on International Education
The Graduate Council voted to approve the proposed amendments.
Draft Guidelines for Pilot Program to Accept Equity for Access to University Facilities or Services
Chair Lo gave a brief explanation of the pilot program proposal. Many committee members were concerned about the ethical issues associated with the proposal. The committee felt that the proposal should include ways in which faculty will be evaluated and regulated. The committee agreed they would be more comfortable if the proposal stated that standard university resources would not be used. Chair Lo asked that comments be sent via email so that a response from the committee can be drafted for distribution.

Management Response to GC’s F&R
Graduate Council voted to accept the program’s response to the F&R and close out the internal review.

Statistics F&R
Graduate Council voted to approve the F&R as written and forward it to the program for a response.
EXECUTIVE COMMITTEE
SCHOOL OF BUSINESS ADMINISTRATION
REPORT TO THE RIVERSIDE DIVISION
March 4, 2015

To be adopted:

A Request for Approval to Change admission requirements to the MPAc Program

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCR Catalog 13-14 p. 86-87</td>
<td>The M.P.Ac. program provides emerging professional accountants and auditors with advanced education in audit and assurance, taxation, accounting information systems and ethics. Accountants and auditors help to ensure that public, private and not for profit entities are run efficiently. Accountants and auditors analyze, verify and communicate financial information for various entities. They may also be involved with budget analysis, tax analysis, management consulting, financial and investment planning, information technology consulting as well as a broad array of assurance services. The M.P.Ac. degree is offered as a one year program (48 units) for graduates with a baccalaureate degree with a concentration or major in accounting. Other students without the equivalent of a baccalaureate degree with a concentration or major in accounting may be admitted to the program with the understanding that additional coursework may be required to earn the M.P.Ac. degree. Candidates will be admitted for the fall quarter only.</td>
</tr>
<tr>
<td>The M.P.Ac. program provides emerging professional accountants and auditors with advanced education in audit and assurance, taxation, accounting information systems and ethics. Accountants and auditors help to ensure that public, private and not for profit entities are run efficiently. Accountants and auditors analyze, verify and communicate financial information for various entities. They may also be involved with budget analysis, tax analysis, management consulting, financial and investment planning, information technology consulting as well as a broad array of assurance services. The M.P.Ac. degree is offered as a one year program (48 units) for graduates with a baccalaureate degree with a concentration or major in accounting. Other students without a concentration or major in accounting may be admitted to the program with the understanding that additional coursework may be required to earn the M.P.Ac. degree. Candidates will be admitted for the fall quarter only.</td>
<td></td>
</tr>
<tr>
<td>UCR Catalog 13-14 p. 316</td>
<td>Master of Professional Accountancy (M.P.Ac.)</td>
</tr>
<tr>
<td>The Master of Professional Accountancy program provides emerging professional</td>
<td>The Master of Professional Accountancy program provides emerging professional</td>
</tr>
<tr>
<td>NC</td>
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</tr>
</tbody>
</table>
accountants and auditors with advanced education in audit and assurance, taxation, accounting information systems and ethics. The M.P.Ac. will be offered as a one year program (48 units) for graduates of a baccalaureate degree with a concentration or major in accounting. These students typically will be graduates of accounting programs from UCR and other colleges and universities. Students admitted to the program will have an academic profile similar to those students admitted to other master’s level programs in the Anderson Graduate School of Management.

| All applicants to this program must have completed a bachelor’s degree or its approved equivalent from an accredited institution and to have attained undergraduate record that satisfies the standards established by the Graduate Division and University Graduate Council. Applications are accepted for fall term. Students will be deemed to have a concentration or major in accounting if his or her prior work includes 48 semester (72 quarter) units of accounting, auditing and business-related subjects, including a minimum of 24 semester (36 quarter) units in accounting and auditing subjects. The remaining 24 semester (36 quarter) units may include additional accounting subjects or other business-related subjects as listed below. Accounting and auditing courses must include Introductory Financial Accounting, Introduction to Auditing, Managerial Accounting or Cost Accounting, Intermediate Financial Accounting—at least 2 semesters or 3 quarters, and Income Taxation of Individuals or Business Entities. Business-related subjects may include courses in Accounting Information Systems, Advanced Accounting, Advanced Auditing, Advanced Taxation, Business Administration, Business Communications, Business Law, Ethics, Business Management, Computer Science/Information Systems, Economics, Finance, Marketing, Statistics, and Management Science/Operations Research. | All applicants to this program must have completed a bachelor’s degree or its approved equivalent from an accredited institution and to have attained undergraduate record that satisfies the standards established by the Graduate Division and University Graduate Council. Applications are accepted for fall term. Students will be deemed to have a concentration or major in accounting if his or her prior work includes 48 semester (72 quarter) units of accounting, auditing and business-related subjects, including a minimum of 24 semester (36 quarter) units in accounting and auditing subjects. The remaining 24 semester (36 quarter) units may include additional accounting subjects or other business-related subjects as listed below. Accounting and auditing courses must include Introductory Financial Accounting, Introduction to Auditing, Managerial Accounting or Cost Accounting, Intermediate Financial Accounting—at least 2 semesters or 3 quarters, and Income Taxation of Individuals or Business Entities. Business-related subjects may include courses in Accounting Information Systems, Advanced Accounting, Advanced Auditing, Advanced Taxation, Business Administration, Business Communications, Business Law, Ethics, Business Management, Computer Science/Information Systems, Economics, Finance, Marketing, Statistics, and Management Science/Operations Research. |
Other students without the above background would be admitted to the program if they have attained undergraduate record that satisfies the standards established by the Graduate Division and University Graduate Council. These students will have to successfully complete (with passing grades) a set of preparatory courses prior to the first fall term in the program.

| All applicants must submit scores from the Graduate Management Admissions Test (GMAT) or Graduate Record Exam, General Test (GRE). Applicants whose first language is not English are required to submit acceptable scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) unless they have a degree from an institution where English is the exclusive language of instruction. | NC |
| Additionally each applicant must submit three letters of recommendation, at least two of which must be academic references. All other application requirements are specified in the graduate application or in the General UCR catalog. | NC |
Candidates must complete 48 units to earn the degree. Of the 48 units, 20 units are required:

- MGT 225. Professional Accounting and Auditing Research
- MGT 229. Sustainability and Ethical Control Systems
- MGT 240B. Advanced Taxation
- MGT 278A. Auditing and Assurance Services: Theory and Practice
- MGT 278B. Information Technology Auditing and Assurance

The balance of the 28 elective units will include other courses in accounting and auditing, courses offered by AGSM in other graduate programs and by other departments in UCR.

**Plan I (Thesis) is not an option for the M.P.Ac. degree program.**

**Plan II (Comprehensive Examination)** Plan II requires that at least 18 units be in graduate-level courses taken at a UC campus. None of these may be in courses numbered 297 or 299. Every candidate must take a comprehensive examination, the content of which is determined by AGSM faculty. Students must pass a comprehensive examination, which is taken after advancing to candidacy and at the end of all coursework (in the last week of the Spring Quarter), to receive the degree. The exam will be computerized and approximately three (3) hours in length, and will cover the topics taught throughout the entire program. This exam is designed to ensure that all students receiving the degree have internalized the central knowledge, problem solving and ethical skills necessary if they are to act as overseers of public trust.

**Normative Time to Degree** 3 quarters
Currently, the MPAc program is designed for graduates of a baccalaureate degree with a concentration or major in accounting. These students typically will be graduates of accounting programs from UCR and other colleges and universities.

To broaden the appeal of the program we would like to make it possible for graduates of a baccalaureate degree WITHOUT a concentration or major in accounting to be admitted to the program. To accomplish this goal, we proposed (and the Committee on Courses approved our proposal on 02/12/2014) a set of intensive courses (MGT 400 A,B,C,D & E) for those applicants that do not have sufficient background in accounting, auditing and information systems. These intensive courses (will probably be offered in the summer) will cover basic elements of accounting, auditing, taxation and accounting information systems and will provide sufficient background in these subject areas to be able to take courses in the MPAc program.

Applicants WITHOUT a concentration or major in accounting would be admitted to the program but will have to successfully complete (with passing grades) a set of preparatory courses prior to the first fall term in the program. The exact set of courses will be determined by the Program Director on individual level based on the applicant’s educational and professional background.

Given that these courses have been approved, it is now possible for us to propose changes to the admission criteria to the program such that those applicants that lack sufficient accounting and auditing background can still be admitted, but their progress in the program is contingent upon successfully completing the intensive courses.

Approved by SoBA EC September 26, 2014
Approved by SoBA Faculty October 23, 2014
February 20, 2015

To: Prof. Richard Savich, Academic Director
   Master of Professional Accountancy (MPAc) Program

From: David Lo, Chair
      Graduate Council

Re: Proposed Changes to the Master of Professional Accountancy

The Graduate Council reviewed your proposed changes to the MPAc program. The Council needs specification on the admission requirements – what exactly must be completed and by when? The Council found the requirements to be ambiguous – what exactly is meant by “Once the course work is completed a final assessment will be made on admission”? Will students be required to pass the courses?

The Council suggests the program revise the language so that it says students without the requisite requirements must successfully satisfy the summer program in order to be considered for admission.

Please let us know if you have questions or need assistance rewriting the proposed language.

Cc: Ana Kafie, SoBA
# Coversheet for Request for Approval
## To Modify Graduate Program Degree Requirements

<table>
<thead>
<tr>
<th>Program</th>
<th>MSOL (Engineering Master Online Program)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is this an interdepartmental program?</td>
<td>☒ Yes</td>
</tr>
<tr>
<td>If an interdepartmental program, list other involved programs</td>
<td>MSE program</td>
</tr>
<tr>
<td>Department/Academic Unit/School</td>
<td>Engineering, UCR</td>
</tr>
<tr>
<td>Date</td>
<td>03-20-2015</td>
</tr>
<tr>
<td>Proposed Effective Date</td>
<td>Fall 2015</td>
</tr>
</tbody>
</table>

| Faculty Contact: | Kambiz Vafai | Email: | vafai@engr.ucr.edu | Phone: | 2-2135 |
| Prepared by: | Paul Talavera | Email: | paul@engr.ucr.edu | Phone: | 2-2115 |

### Proposed Modification(s) (please check all that apply)

- ☐ Admission requirements
- ☐ Unit requirements
- ☐ Professional Development Plan
- ☐ Examination requirements
- ☒ Other (please describe): Change in committee to be reflected in the UCR catalog
- ☐ Time-to-degree
- ☒ Course requirements — course changes/new courses MUST be submitted in CRAMS simultaneously with program change/new program submission.

1. If the program change involves changes to any existing courses (deleting courses, changing existing courses, or adding new courses), the course changes MUST be submitted in CRAMS simultaneously with the program change submission so that Graduate Council can review all affected courses with the proposed program change.

2. Proposal must include a cover letter from the Dean, Associate Dean, Chair, Director or Program Advisor as appropriate, taking care to briefly describe the proposed modifications and justification for the request.

3. Attached proposal must include the proposed modifications as formatted in the example below. The existing requirements must be on the left column, and the proposed revisions on the right. Proposed additions must be underlined and deletions must be stricken.

<table>
<thead>
<tr>
<th>Existing</th>
<th>Proposed</th>
</tr>
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<tr>
<td>Insert existing program requirements on this side of the table and strike the deletions.</td>
<td>Insert proposed requirements on this side of the table. Underline the additions</td>
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</table>

Justification: The Justification should include examples such as impact on time to degree, expected impact on employment prospects, expected impact on recruitment. Please address whether current students will be permitted to switch to take advantage of the revisions. If so what will the approval process be?

Faculty Approval Date: Indicate the date of the faculty vote

| Department Chair / Program Director: | Please type name(s) as appropriate |
| Signature: | Please include signature(s) as appropriate |
| Date: | Date signed |

### Checklist of Required Attachments/Appendices (please check to verify inclusion):

- ☒ Dean/Associate Dean/Chair or Program Advisor Cover Letter.
- ☒ Completed Coversheet for Request for Approval To Modify Graduate Program Degree Requirements.
Revised Catalogue/Website Copy in proper table format including Justification as indicated above. Must be signed and dated.
To be adopted: Update to the Online M.S. Committee and UCR catalog. The committee member from EE department has changed.

<table>
<thead>
<tr>
<th>Present Version</th>
<th>Proposed Version</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Online M.S. Committee</strong></td>
<td><strong>Online M.S. Committee</strong></td>
</tr>
<tr>
<td>David Cocker, Ph.D. (Chemical and Environmental Engineering)</td>
<td>David Cocker, Ph.D. (Chemical and Environmental Engineering)</td>
</tr>
<tr>
<td>Heejung Jung, Ph.D. (Mechanical Engineering)</td>
<td>Heejung Jung, Ph.D. (Mechanical Engineering)</td>
</tr>
<tr>
<td>Jianlin Liu, Ph.D. (Electrical Engineering)</td>
<td>Hamed Mohsenian-Rad, Ph.D. (Electrical Engineering)</td>
</tr>
<tr>
<td>Victor Rodgers, Ph.D. (Bioengineering)</td>
<td>Victor Rodgers, Ph.D. (Bioengineering)</td>
</tr>
<tr>
<td>Frank Vahid, Ph.D. (Computer Science and Engineering)</td>
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</tr>
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**Justification:** Update to the Online M.S. Committee and UCR catalog. The committee member from EE department has changed.

<table>
<thead>
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<tbody>
<tr>
<td>Director, Kambiz Vafai</td>
<td></td>
</tr>
<tr>
<td>Date:</td>
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Coversheet for Request for Approval
To Modify Graduate Program Degree Requirements

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<td>☑ Yes ☐ No</td>
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<td>If an interdepartmental program, list other involved programs</td>
<td>MSE program, EE program, ME program, BIEN program</td>
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<td>Fall 2015</td>
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Faculty Contact: Kambiz Vafai  Email: vafai@engr.ucr.edu  Phone: 2-2135
Prepared by: Paul Talavera  Email: paul@engr.ucr.edu  Phone: 2-2115

Proposed Modification(s) (please check all that apply)

- ☑ Admission requirements
- ☑ Unit requirements
- ☑ Professional Development Plan
- ☑ Examination requirements
- ☑ Time-to-degree
- ☑ Course requirements – course changes/new courses MUST be submitted in CRAMS simultaneously with program change/new program submission.
- ☐ Other (please describe):
- ☐ Does this program change affect any other programs

1. If the program change involves changes to any existing courses (deleting courses, changing existing courses, or adding new courses), the course changes MUST be submitted in CRAMS simultaneously with the program change submission so that Graduate Council can review all affected courses with the proposed program change.

2. Proposal must include a cover letter from the Dean, Associate Dean, Chair, Director or Program Advisor as appropriate, taking care to briefly describe the proposed modifications and justification for the request.

3. Attached proposal must include the proposed modifications as formatted in the example below. The existing requirements must be on the left column, and the proposed revisions on the right. Proposed additions must be underlined and deletions must be stricken.

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Justification: The Justification should include examples such as impact on time to degree, expected impact on employment prospects, expected impact on recruitment. Please address whether current students will be permitted to switch to take advantage of the revisions. If so what will the approval process be?

Faculty Approval Date: Indicate the date of the faculty vote

Department Chair / Program Director: Please type name(s) as appropriate
Signature: Please include signature(s) as appropriate
Date: Date signed

Checklist of Required Attachments/Appendices (please check to verify inclusion):

- ☑ Dean/Associate Dean/Chair or Program Advisor Cover Letter.
- ☑ Completed Coversheet for Request for Approval To Modify Graduate Program Degree Requirements.
- ☑ Revised Catalogue/Website Copy in proper table format including Justification as indicated above. Must be signed and dated.
To be adopted: Please note that what is on the catalogue stays as is. There is no need to change anything in the catalogue. The changes are in reflected in the MSOL web site as displayed here.

Proposed specialization additions to MSOL graduate program requirement for MS students.

<table>
<thead>
<tr>
<th>Present Version on the MSOL web site</th>
<th>Proposed Version on the MSOL web site</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course Requirements</strong> Students must complete 36 units (9 courses), six of which must be at the 200 level, including:</td>
<td>Course Requirements Students must complete 36 units (9 courses), six of which must be at the 200 level, including:</td>
</tr>
<tr>
<td>1. Four college-wide core courses from the professional engineering series.</td>
<td>1. Four college-wide core courses from the professional engineering series.</td>
</tr>
<tr>
<td>2. Four specialization courses in an engineering concentration area.</td>
<td>2. Four specialization courses in an engineering concentration area.</td>
</tr>
<tr>
<td>3. Project Design Course</td>
<td>3. Project Design Course</td>
</tr>
</tbody>
</table>

**MSOL Specializations**

**Bioengineering:** This specialization emphasizes principles and application of bioengineering based on a solid fundamental foundation in biological science and engineering to equip students with diverse communications skills and training in the most quantitative bioengineering research so that they can become leaders in their respective fields.

- BIEN 223: Engineering Analysis of Physiological Systems
- BIEN 224: Cellular and Molecular Engineering
- BIEN 249: Integration of Computational and Experimental Biology
- BIEN 264: Biotransport Phenomena

**Electrical Engineering:** This specialization emphasizes the principles and common research trends in electric power systems analysis and operation and smart grid applications.

- BIEN 223: Engineering Analysis of Physiological Systems
- BIEN 224: Cellular and Molecular Engineering
- BIEN 249: Integration of Computational and Experimental Biology
- BIEN 264: Biotransport Phenomena
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE155</td>
<td>Power Systems Analysis</td>
</tr>
<tr>
<td>EE123</td>
<td>Power Electronics; (or EE153: Electric Drives)</td>
</tr>
<tr>
<td>EE232</td>
<td>Introduction to Smart Grid</td>
</tr>
<tr>
<td>EE233</td>
<td>Power System Steady State and Market Analysis</td>
</tr>
</tbody>
</table>

The students for EE specialization will also need to take ENGR160 (Introduction to Engineering Optimization Techniques) in addition to the four EE specializations. That is the core professional courses for EE specialization will be ENGR160 plus three of the four regular core professional courses which are ENGR 200: Engineering in the Global Environment; ENGR 201: Technology Innovation and Strategy for Engineers; ENGR 202: Introduction to Systems Engineering and ENGR 203: Principles of Engineering Management.

**Environmental Engineering Systems (Water):**
Through a series of professional development and technical courses, this specialization will equip students with knowledge and insights that are needed for leadership in a water-related environmental engineering career at a consulting firm, water/wastewater agency, federal/state regulatory agency, or a large company.

- CEE 241: Water Chemistry in Natural and Engineered Systems
- CEE 225: Physical and Chemical Separation Processes
- CEE 226: Biological Treatment Processes
- CEE 227: Advanced Treatment Systems

**Materials at the Nanoscale:** In addition to course work on engineering management, systems, innovation and strategy, and working in a global environment, this program will focus on a broad range of nanoscale processes and applications.
through courses from UCR’s interdisciplinary Materials Science and Engineering program.

**MSE 210:** Crystal Structure and Bonding

**MSE 248:** Nanoscale Science and Engineering

**MSE 218:** Imperfections in Solids

**MSE 238:** Introduction to Microelectromechanical Systems

**Mechanical Engineering:** In addition to coursework on engineering management, systems, innovation and strategy, and working in a global environment, this program will focus on a broad range of courses in Sustainable Product Design, Fluid Systems, Secure and Reliable Control Systems and Manufacturing and Materials Processing

**ME 210:** Sustainable Product Design

**ME223:** Secure and Reliable Control Systems Instructor

**ME240A Fundamentals of Fluid Mechanics**

**ME 274:** Plasma-aided Manufacturing and Materials Processing

Specialization courses are offered by the participating departments, whereas core courses are offered at the college level to all students. Specialization courses are taught by BCOE faculty as traditional classes to on-campus M.S. and Ph.D. students while also being delivered to online students. Online students are expected to satisfy the same requirements as on-campus students.

For areas of specialization and further information, see [http://www.msol.ucr.edu](http://www.msol.ucr.edu).

| Justification: Changes need to be made due to departmental changes made to courses which affect the MSOL program. MSE has decided that they want to replace one of their courses for the Materials at nanoscale Specialization. MSE218 is to be replaced by MSE201. BIEN department has changed the title of one of the BIEN/MSOL Specializations. BIEN264 is now titled “Biotransport Phenomena”. |
Correction of EE course number, as the department had to make a change of number due to Registrar/CRAMS policy. EE 233 is being changed to EE218.

<table>
<thead>
<tr>
<th>Faculty Vote Date:</th>
<th>January 1, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved by</td>
<td>Dr. Kambiz Vafai, Director, MSOL program</td>
</tr>
</tbody>
</table>
1) When should students be done with course work?

☐ End of year 1 ☐ End of year 2 ☐ End of year 3 ☐ End of year 4

2) How many written [comprehensive] exams are required?

3) When should the written exams be completed?

☐ End of year 1 ☐ End of year 2 ☐ End of year 3 ☐ End of year 4

4) When should the oral qualifying exam be taken?

☐ End of year 1 ☐ End of year 2 ☐ End of year 3 ☐ End of year 4

4a) Can the thesis mentor be present at the exam? ☐ Yes ☐ No

5) Is a dissertation proposal required separately from the oral qualifying exam and comprehensive exam? ☐ Yes ☐ No

6) When should the dissertation proposal be completed?

☐ End of year 1 ☐ End of year 2 ☐ End of year 3 ☐ End of year 4

7) Is there a guidance committee assigned to each student? ☐ Yes ☐ No

7a) If so, what year is this committee assigned?

7b) How frequently are guidance committee meetings required?

8) How frequently does the graduate advisor meet with each student?

9) What is the expected number of years supported by TAships after advancement to candidacy?

10) Is graduate student support expected to come from extramural (grant) funds? ☐ Yes ☐ No

10a) If yes, how many years are expected to be supported by extramural funds?