REQUEST FOR PROGRAM CHANGE(S)

University of Central Oklahoma

Please note: All information contained in this form will be reviewed by persons outside of your college. Please use clear and concise language when completing this form.

Name of program-major or minor to be changed: (maximum of 30 spaces)
Existing Name: 
   Engineering Physics – Physics

Proposed Name: (if changing)(maximum of 30 spaces)
   *Remember when abbreviating names, this is how they will appear on student's transcripts.

Proposed Name: (full name of program/major if longer than 30 spaces)

Is this a:  
   □ Program  □ Major  □ Minor  □ Sequence of Courses

Proposed change:
   □ Name Change
   □ Degree Designation
   □ Admission Requirement
   □ Curriculum Change
   □ GPA Requirement
   □ Other: BS/PSM & BS/MS

Is this program:
   □ Undergraduate  □ Graduate

Is this a teacher preparation program? (All courses required for any teacher preparation program must have approval from the Council on Teacher Education (CTE) before approval from AACC or Graduate Council.)
   Yes  □ No  □ If yes, send copy of proposal to the Director of Teacher Education, Dr. Bryan Duke.
   CTE Approval (Stamp or initial)

Engineering and Physics
Department submitting the proposal
Evan Lemley elemley@uco.edu  5473
   Person to contact with questions  email address  Ext. number

Approved by:

   □ Department Chair  9/30/2020
   □ College Dean  10/1/2020
   □ College Curriculum Committee Chair  9/30/2020
   □ Academic Affairs Curriculum or Graduate Council  Date

Office of Academic Affairs  Date
Effective term for this program change (Assigned by Academic Affairs)
1. Does this program change affect other programs or departments?  
   X. Yes __ No    
   Discussion(s).

The proposed accelerated degree program pipelines undergraduate students in a program in the Engineering and Physics Department into a master's program under CREIC (Computational Research and Education in Interdisciplinary Computation). The Director of CREIC, Evan Lemley, and the Chair of Engineering and Physics, Charles Hughes, discussed this proposal on multiple occasions, the last of which was 08/28/2020, and they agreed to the contents of this proposal.

2. Proposed curriculum change(s):  
   (Please include entire major/minor as it exists and as it is proposed. Italicize and bold changes.)

<table>
<thead>
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<th>Major Requirements</th>
</tr>
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<tbody>
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<td>(Existing Catalog Requirements)</td>
</tr>
<tr>
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</tr>
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</tr>
<tr>
<td>ECON 1103</td>
</tr>
<tr>
<td>FMKT 2323</td>
</tr>
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Functional review: CF (undergraduate proposals only)
Minimum Grade Requirements
1. Average in (a) all college course work, and (b) course work at UCO................................................................. 2.00
2. A minimum grade of "C" must be earned in all courses in the major to count toward meeting degree requirements.

For other regulations pertaining to graduation, see pages 66-67 of the 2019-2020 catalog.

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Electives to bring total to............... 124*

*Total hours required for this major may exceed the minimum 124 credit hour institutional requirement and will vary according to course selection. It is recommended students complete high school algebra II, trigonometry, physics and two years of a second language in high school.

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Electives to bring total to............... 124*

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Accelerated BS/MS

The Department of Engineering and Physics offers a M.S. Engineering Physics - Physics major. Students in the B.S. Engineering Physics program are eligible to pursue, with approval, the M.S. Engineering Physics -Physics degree beginning in their senior year. Approved B.S. Engineering Physics students may take up to nine credit hours of 5000-level ENGR courses during their senior year of the BS program. These courses will count toward both the B.S. and M.S. degrees. A formal application to the M.S. Engineering Physics - Physics program and an approval from the Department of Engineering and
Physics are required. Requirements are located in the UCO Graduate Catalog under Engineering Physics - Engineering Physics.

Up to nine credit hours of the following courses can be used to satisfy both the B.S. Engineering Physics and the M.S. Engineering Physics - Physics: PHY 5443 Quantum Mechanics
A 5000-level PHY, ENGR, or BME course
A 5000-level PHY course

Accelerated BS/PSM

UCO’s PSM (Professional Science Master’s) in Computational Science has partnered with the BS in Engineering Physics so that approved students may take up to 10 credit hours of 5000-level ENGR courses during their senior year of the BS program. These courses will count toward both the BS and PSM degrees. A formal application to the PSM Computational Science program and an approval from the Department of Engineering and Physics are required. Requirements are located in the UCO Graduate Catalog under Computational Science - Computational Engineering, P.S.M.

Up to 10 credit hours of the following courses can be used to satisfy both the B.S. Engineering Physics and the P.S.M. Computational Science Computational Engineering:

ENGR 5023 Heat Transfer
ENGR 5103 Finite Element Analysis
ENGR 5333 Digital Signal Processing
ENGR 5311 Digital Signal Processing Laboratory
ENGR 5803 Mechatronics & Laboratory
ENGR 5443 Fluid Dynamics
PHY 5443 Quantum Mechanics

3. Degree Designation: (Example, B.A. to B.F.A.)

Existing Designation: NA

To: 

4. Change(s) in Minimum GPA Requirements:

FROM (Existing Catalog Requirements)
NA

TO (Proposed Catalog Requirements)

5. Change(s) in Admission Requirements for the Program/Major:

FROM (Existing Catalog Requirements)
NA

TO (Proposed Catalog Requirements)

6. Other requested action:

NA

7. Will requested change require additional funds? Yes X No

If yes, please specify the amount of the additional costs, the source of the funds, and how they will be expended over the next three years, including new or re-allocated full or part time faculty/staff.
8. Please provide a summary of the requested changes. (This is a listing of the changes requested) (This information will be submitted to the OSRHE)

These changes will enable students admitted to the proposed accelerated BS/PSM program in this undergraduate major, to take up to 10 hours of graduate coursework while seniors. These courses will be used to satisfy the requirements of both this undergraduate program and the PSM program.

In addition, these changes will enable students admitted into the accelerated BS/MS program in Engineering Physics – Physics to take up to nine hours of graduate coursework while seniors. These courses may be used to satisfy the requirements of both this undergraduate program and the MS program in Engineering Physics - Physics.

9. The reason(s) for this change are based on which of the following: (Check all that apply; explain and document in Question #10)
   - Specialized Accreditation
   - SSCI (Self Study for Continuous Improvement)
   - Benchmark (e.g. comparison to peer institutions)
   - Assessment Data
   - Faculty Knowledge/Discipline Expertise
   - Advisory Board/Outside Professional Group
   - Other

10. For all items checked in Question #9, please provide a concise, yet comprehensive, statement that explains the reasons for requesting the change including any necessary documentation. (The information provided here will be submitted to the OSRHE)

   Discussions with senior UCO students have shown their interest in the proposed accelerated BS/PSM program. In open house and career fairs in which the PSM director has marketed the PSM program, this is the most common question from UCO students.

   The proposed changes would clearly ease the pathway to obtaining a master’s degree and doing it in less time for UCO students in this undergraduate major.
Accelerated Degree Program Curricular Form

Thank you for your desire to have an Accelerated Degree Program approved through the Graduate College curriculum review process, which involves a recommendation from the Graduate Council’s Curriculum Committee.

Given that Accelerated Degree Programs permit an undergraduate student to enroll in graduate courses and to count the completed graduate courses toward their undergraduate degree, these curriculum proposals are approved through both undergraduate (Academic Affairs Curriculum Committee) and graduate (Graduate Council) curricular processes. The Academic Affairs Curriculum Committee reviews Accelerated Degree Program proposals and makes recommendations to the Graduate Council.

In order for the Graduate Council to review the proposal submitted, this form should be completed and submitted with the undergraduate curriculum proposal. If approved, the information provided below will be used by the Graduate College to develop the Accelerated Degree Program paragraph in the Graduate Catalog degree sheet; a sample Degree Sheet paragraph is provided below.

Undergraduate Degree Faculty Contact:
Abdellah Ait Moussa, Ph.D.

Undergraduate Degree Department:
Engineering and Physics

Name of the Undergraduate Degree in the Accelerated Degree Program:
Engineering Physics

Name of the Graduate Degree in the Accelerated Degree Program:
Computational Science-Computational Engineering

Name of the Graduate Program Advisor for the ADP Graduate Degree:
Evan Lemley

Specific Graduate Courses to Be Counted Toward the Undergraduate and Graduate Degrees:

<table>
<thead>
<tr>
<th>Graduate Course Prefix</th>
<th>Graduate Course No.</th>
<th>Graduate Course Credit Hour</th>
<th>Graduate Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR</td>
<td>5803</td>
<td>3</td>
<td>Mechatronics &amp; Laboratory</td>
</tr>
<tr>
<td>ENGR</td>
<td>5333</td>
<td>3</td>
<td>Digital Signal Processing</td>
</tr>
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<td>ENGR</td>
<td>5511</td>
<td>1</td>
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</tr>
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Please Note: No more than 10 hours of graduate coursework in an Accelerated Degree Program may be double-counted for both a graduate and undergraduate degree. No undergraduate coursework may be counted toward a graduate degree. All students are required to apply to the Graduate College for ADP admission and are subject to Graduate College policies upon graduate admittance.
Sample Accelerated Degree Program Graduate Catalog Degree Sheet Paragraph

Accelerated Degree Program

Students who are accepted to the undergraduate degree in Engineering Physics may apply to take up to a maximum of 10 hours during their senior year of the bachelor's degree. These courses will count toward both the B.S. Engineering Physics and P.S.M. Computational Science – Computational Engineering. The approved graduate courses are: ENGR 5023 Heat Transfer, ENGR 5103 Finite Element Analysis, ENGR 5333 Digital Signal Processing, ENGR 5311 Digital Signal Processing Laboratory, ENGR 5803 Mechatronics & Laboratory, ENGR 5443 Fluid Dynamics, PHY 5443 Quantum Mechanics. These courses are specified on the degree sheet. During the last semester of their junior year or within 30 hours of graduation, an undergraduate student with a 3.0 overall GPA may apply for admission to the Accelerated Degree Program.