Wilkes University Curriculum Committee

PROPOSAL SUBMITTAL FORM

1. Originator: Henry J. Castejon
   Department of Mechanical Engineering
   Phone: 4607, Email: henry.castejon@wilkes.edu

2. Proposal Title: Replacing EGR-140 with ME-140 for accreditation compliance

3. Type of proposal: Program Revision.

4. Indicate the number of course modification forms that apply to this proposal: 1 Course Change Form and Syllabus.

5. Executive Summary of Proposal:
   The course EGR-140: Computational and Statistical Analysis will be replaced with ME-140: Computer Applications and Scientific Programming.
   The program of Mechanical Engineering was recently evaluated by the Accreditation Board of Engineering and Technology (ABET). In order to increase the Science and Mathematics content of the program and ensure accreditation compliance the replacement above is implemented.

6. Other specific information. ME-140 will include content from EGR-140, it will be delivered with a lecture/laboratory approach and it will be a two (2) credits course in order to keep the total number of credits at 130.

7. Program Outline. ME-140 will replace EGR-140 in the spring semester of the freshman year of the Recommended Course Sequence in the Mechanical Engineering curriculum.

8. Signatures and Recommendations.

   [Signatures and recommendations]

   Henry J. Castejon
   Interim Chair - Mechanical Engineering

   William Hudson
   Dean - College of Science and Engineering

   David Carey
   Interim Chair - Electrical Engineering

   Anne Skleder
   Senior VP and Provost

   Susan Hritzak, Registrar
### Wilkes University Curriculum Committee

**COURSE ADDITION FORM**

<table>
<thead>
<tr>
<th>Proposed</th>
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<tbody>
<tr>
<td><strong>Course Title</strong></td>
</tr>
<tr>
<td>Computer Applications and Scientific Programming</td>
</tr>
<tr>
<td><strong>Course Number</strong></td>
</tr>
<tr>
<td>ME-140</td>
</tr>
<tr>
<td><strong>Course Credit Hours</strong></td>
</tr>
<tr>
<td>2</td>
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<tr>
<td><strong>Classroom Hours</strong></td>
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<td>2</td>
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<tr>
<td><strong>Lab Hours</strong></td>
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<tr>
<td><strong>Co-Requisites</strong></td>
</tr>
<tr>
<td>MTH-111</td>
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<tr>
<td><strong>Course Description</strong></td>
</tr>
<tr>
<td>Introduction to computational and numerical techniques for engineers. Formulation and solution of engineering problems. Introduction to scientific programming and computer applications in engineering.</td>
</tr>
<tr>
<td><strong>Potentially affected programs</strong></td>
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<tr>
<td>Mechanical Engineering</td>
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</tbody>
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**Explanation of the proposed change:**

ME-140 will replace EGR-140.
ME-140 - Computer Applications and Scientific Programming

Course Information

- **Time/Location:** TBD.
- **Instructor:** TBD.
- **Office hours:** TBD.
- **Textbook:** TBD.
- **Grade Distribution:** Homework 20.0%, Exams 60.0%, Final 20.0%.
- **In-class exams:** There will be four (4) closed-book, closed-notes, cumulative exams. The tentative dates for the exams are: ____________________________
- **Homework:** Homework will be assigned weekly or as permitted and it will be due as indicated. Only homework that is "clean" and it has been handed-in on time will count. A "clean" homework must be stapled, clearly indicate the student’s name and the homework’s title (e.g. Homework 3), and the problems must be solved in the given order. If any problem is skipped, space must be left blank. No late homework will be accepted. Every graded assignment (exams and homeworks) must be signed, dated and returned to the instructor before taking the next one.
- **Participation:** You will be called by the instructor to participate in the recitation sessions. Be prepared to get involved in the solutions of example problems and questions by reading the material.
- **Final Grade:** Final grades will be determined according to the following conversion table (Point cut offs are subject to change at the instructor’s discretion):

<table>
<thead>
<tr>
<th>Course Grade</th>
<th>0 - 49</th>
<th>50 - 57</th>
<th>58 - 64</th>
<th>65 - 71</th>
<th>72 - 78</th>
<th>79 - 85</th>
<th>86 - 92</th>
<th>93 - 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Grade</td>
<td>0.0</td>
<td>1.0</td>
<td>1.5</td>
<td>2.0</td>
<td>2.5</td>
<td>3.0</td>
<td>3.5</td>
<td>4.0</td>
</tr>
</tbody>
</table>

- **Academic Conduct:** Students are expected to abide by the University Code of Honor and the academic regulations as published in the Student Handbook and the University Bulletin. They are also expected to be respectful towards their peers and the instructor, to be in time for class and to avoid any class-disrupting behavior. Cell phones and pagers should be off during class.
ME-140 - Computational and Numerical Techniques for Engineers

Syllabus

Problem Formulation and Solution

Computational Error and Their Treatment

Experimental Errors and Their Statistical Treatment

Solution of Non-linear Equations

Solution of Simultaneous Linear Equations

Numerical Integration

Numerical Solution of Ordinary Differential Equations

Interpolation and Approximation

IMPORTANT NOTICE
All procedures and dates described in this document are subject to change by the instructor to contend with unforeseeable events or pedagogical goals.