ME EN 5910: Cooperative Education

Course Overview

**Course Overview:**

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| Instructors: | Andy Gill \| Andy.Gill@utah.edu \| Senior Design Lab MEK 0333 |
| | Benjamin Petrie \| Benjamin.Petrie@utah.edu \| MEK 1560C |
| Website: | https://utah.instructure.com |
| Course Description: | On-the-job cooperative education experience. Mechanical Engineering students who have completed at least 54 of the technical credits required for the BSME (i.e., approximately the first two years of the ME undergraduate program) may earn up to three technical elective credits for engineering co-op or internship experience. Students working full time (30+ hours per week) may earn 3 credits per semester. Students working part time (minimum 15 hours/week) may earn 1.5 credits per semester. Students must enroll in ME EN 5910 during the semester the work is being performed. |
| Prerequisites: | Full Major Status in Mechanical Engineering |
| | Completion of 54 of the technical credits required for the BSME |
| | Approval of the engineering job description and learning objectives by the instructors |
| Corequisites: | C or higher in ME EN 3400 – Professional Communication for Mechanical Engineers |

**Course Approval:**

To gain approval to enroll in ME EN 5910, you must demonstrate that your internship will (1) make use of Mechanical Engineering concepts learned in the technical courses you have completed for the BSME degree and (2) complement and strengthen your Mechanical Engineering education.

Follow these steps to request approval for ME EN 5910:

1. Obtain or write up a detailed job description that specifies (1) the engineering tasks you will be performing during your internship and (2) the number of hours you will work per week.
2. Meet with your employer supervisor to:
   a. Discuss this syllabus, the course requirements, and the employer's role in the cooperative education experience.
   b. Design four measurable, quantifiable learning objectives that you will work on during your internship. Note that these learning objectives will form the basis for your technical reports.
   c. Have them sign your job description and your list of learning objectives.
3. As part of your application, submit a course schedule. If applying for the 3-credit version (30-40 hours of work per week), instructors recommend no more than 10 additional credit hours. Internship credit may be denied based on the totality of your course schedule.
4. Complete the online ME EN 5910 Co-op Application and upload your signed job description and learning objectives. http://forms.mech.utah.edu/forms-current-student/me-en-5910-co-op-application/. If your application for ME EN 5910 is approved, you will receive a permission code via email from the instructors or one of ME Undergraduate Academic Advisors.

**Course Grading:**

ME EN 5910 is graded CR/NC

*To receive a CR grade, you are required to:*

1. Technical: Submit satisfactory technical progress reports and a final technical report discussing the technical aspects of your internship accomplishments.
2. Career/Professional: Submit satisfactory reflection memos and other assignments as specified below.
3. Employer Evaluation: Be evaluated by your supervisor at the med- and end-points of your internship.

Assignment due dates are posted in Canvas. Late work will be accepted at the discretion of the instructors.

**Course Assignments:**

All memos should be written using your employer's memo template or recommended memo format and should be 1-2 pages (500 – 1000 words) long unless otherwise specified. If your employer does not have a memo format, a basic memo following IEEE formatting is acceptable.

**Technical Assignments**

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| Learning Objectives | State and briefly discuss your learning objectives for the semester/internship. |
| Progress Reports | Discuss your progress towards completing your learning objectives. What challenges or setbacks have you encountered? What remains to be done? |
| Technical Reports | Discuss in detail the technical aspects of your internship accomplishments. |

**Career/Professional Assignments**

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| Networking | Reflect on how you found your internship position. Did networking play a role, and/or do you expect networking to play a role in future job searches? |
| Employer Profile | Describe the company for which you are doing your internship. Consider the career path you might follow if you stay with this employer (or return after graduating). |
| Career Self-Evaluation | Analyze your strengths, weaknesses, opportunities, and threats/barriers to your professional development. |
| Career Action Plan | Create a career action plan that will help you strategize your professional and personal growth. |
| Ethics | Identify and write about the ethical standards in your internship's field. Discuss a real ethical dilemma that has arisen during your internship experience. |
| Internship Experience | |
| Reaction to Employer Evaluation | Discuss your reaction to your employer's mid-point evaluation. In what ways do you agree/disagree with his/her assessment? How can you improve your performance going forward? |
| Initiative | Describe 2-3 actions taken so far during your internship that demonstrated your initiative. Identify some extra things you could offer to do or suggest some ways you might do your job more efficiently during the remainder of your internship. |
| Communication/Teamwork | Discuss the types of engineering communication required by your internship. Describe your experiences with teamwork during your internship. |
| Marketable Skills | Discuss what skills you have learned during your internship that will be valuable in your education and career. |

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| Resume | Revise your current resume to include experiences and skills gained during your internship. |
| Internship Experience | Reflect on your overall internship experience. How did your projects/responsibilities build on what you learned in your engineering coursework? How has or will your internship experience affect your classroom learning? |

**Approximate Schedule for 3 credits (Full-time internship)**

Based on a 12-week summer schedule; refer to Canvas for actual due dates

| Week | Technical Assignment | Career/Professional | Employer |
|---|---|---|---|
| **0** | Job Description + Learning Objectives | Syllabus Agreement | Signed position description |
| **1** | Learning Objectives (memo) | Networking | |
| **2** | | Employer Profile | |
| **3** | L.O. 1 Progress Report | Career Self-Evaluation | |
| **4** | | Career Action Plan | |
| **5** | | Ethics | |
| **6** | L.O. 2 Progress Report | Internship Experience 1 | Mid-Point Evaluation |
| **7** | | Reaction to Employer Eval | |
| **8** | | Initiative | |
| **9** | L.O. 3 Progress Report | Comm/Teamwork | |
| **10** | | Marketable Skills + Resume | |
| **11** | | Internship Experience 2 | |
| **12** | Technical Report | | Final Evaluation |

**Approximate Schedule for 1.5 + 1.5 credits (Part-time internship)**

Based on a 14-week Fall/Spring Schedule; refer to Canvas for actual due dates

**First Semester (1.5 Credits)**

| Week | Technical Assignment | Career/Professional | Employer |
|---|---|---|---|
| **0** | Job Description + Learning Objectives (list) | Syllabus Agreement | Sign Job Description with Learning Objectives & hrs/wk |
| **1** | | Networking | |
| **2** | Learning Objectives (memo) | | |
| **3** | | | |
| **4** | | Employer Profile | |
| **5** | | | |
| **6** | L.O. 1 Progress Report | | |
| **7** | | | |
| **8** | | Career Self-Evaluation | |
| **9** | | | |
| **10** | | Career Action Plan | |

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| **11** | L.O. 2 Progress Report | | |
| **12** | | Internship Experience 1 | |
| **13** | | | Mid-Point Evaluation |
| **14** | Technical Report | Reaction to Employer Eval | |
| **Week** | **Technical Assignment** | **Career/Professional** | **Employer** |
| **1** | Learning Objectives (memo, updated) | | Confirm learning objectives & hrs/wk |
| **2** | | Ethics | |
| **3** | | | |
| **4** | | Initiative | |
| **5** | L.O. 3 Progress Report | | |
| **6** | | Comm/Teamwork | |
| **7** | | Marketable Skills | |
| **8** | | Resume | |
| **9** | | | |
| **10** | L.O. 4 Progress Report | | |
| **11** | | | |
| **12** | | Internship Experience 2 | |
| **13** | | | |
| **14** | Technical Report | | Final Evaluation |