Industrial Internships in Engineering

Effective May 12, 2022

This policy describes the process required to set up internships for students in Bachelor of Engineering programs with Internship option. It supersedes all prior policies.

A. Course Descriptions:

ENGR 526 Industrial Internship I (3 credits)
An internship with a sponsoring industrial firm, requiring the intern to be assigned duties requiring the practical application of engineering knowledge. These could include such tasks as inspection of existing equipment or systems, inspection of newly completed work, preparation of specifications for renovation or repair work, or development of maintenance plans and programs. The intern will keep a daily work log, and will retain work samples subject to the approval of his/her supervisor, as agreed with the intern's faculty advisor. The intern will receive a formal performance review upon completion of the internship, and must complete a substantial internship report to receive credit.
Prerequisites: Permission of the department chairman and completion of sophomore year in a relevant engineering discipline.
[Summer]

ENGR 536 Industrial Internship II (3 credits)
An internship with a sponsoring industrial firm, requiring the intern to be assigned duties requiring the practical application of engineering analysis and design techniques, which could include such tasks as review and application of relevant codes to proposed renovation and repair work, completion of calculations pertaining to performance or sizing of equipment, completion of design specifications, estimates, and drawings, or preparation of reports and presentation materials. The intern will keep a daily work log, and will retain work samples subject to the approval of his/her supervisor, as agreed with the intern's faculty advisor. The intern will receive a formal performance review upon completion of the internship, and must complete a substantial internship report to receive credit.
Prerequisites: ENGR 526, permission of the department chairman, and completion of the junior year in a relevant engineering discipline.
[Summer]

ENGR 538 Extended Internship in Engineering (6 credits)
An internship with a sponsoring industrial firm, requiring the intern to be assigned to duties requiring the practical application of engineering analysis and design techniques, which could include such tasks as review and application of relevant codes to proposed renovation and repair work, completion of calculations pertaining to performance or sizing of equipment, completion of design specifications, estimates, and drawings, or preparation of reports and presentation materials. The intern will keep a daily work log, and will retain work samples subject to the approval of his/her supervisor, as agreed with the intern's faculty advisor. The intern will receive a formal performance review by the faculty advisor upon completion of the internship. This course is intended to be taken in place of the ENGR 526/ENGR 536 sequence.
Prerequisites: Permission of the department chairman, and completion of the junior year in a relevant engineering discipline.
[Summer]

B. Internship Definitions and Intent:

1. An ***Internship*** is an academic course that gives students an intense, practical learning experience outside the college. The intent is for students to encounter and address situations where her/his technical knowledge is relevant and applicable, and encounter situations where the knowledge gained in the coming academic semesters will be placed in a recognizable, applied context. Intern option students are required to complete either two 3-credit or one 6-credit internship. Internships comprise a work experience of no less than: (40) business days of at least eight-hour duration for 3-credit courses; (60) business days of at least eight-hour duration for the 6 credit course.

2. An ***External Sponsor*** is a company, government agency or other organization which has professional work opportunities available for engineering students and which is willing to accept Maritime College B.E. students. External sponsors must agree to designate an individual serving in a professional capacity to act as the intern's ***External Supervisor***.

3. The ***Faculty Supervisor*** is a regular or emeritus faculty member in the student's home engineering department who provides academic guidance to the student when arranging the internship. The student's academic advisor normally serves as the Faculty Supervisor.

4. The ***Internship Proposal*** is a written agreement between the external sponsor, the faculty supervisor and the student. It specifies the nature of the work to be done by the intern, the learning objectives and deliverables that will be the means for assessing the student's performance (sample in Part E).

5. The ***Internship Report*** is a written report submitted by the student for evaluation by the faculty supervisor in satisfaction of the internship proposal. This document and the external supervisor's evaluation of the student's performance form the basis for assigning a grade and granting course credit.

6. Internships are intended to be undertaken during the summer. The extended internship requires completion of the junior year in the major field of study. Two 3-credit internships undertaken at different companies in a single summer session may be approved if the nature of the work and the time of employment satisfy the course requirements. This option also requires prior completion of the junior year in the major and prior approval.

7. Internships are intended to be full-time professional-level work, so will not be approved during a semester while a student is enrolled in academic courses. Exceptions to this rule must be approved by the Faculty Supervisor and the Chair of Engineering.

8. Registration for an internship is meant to be completed prior to beginning work. Any delay must be arranged with the advisor as soon as possible, and in most cases registration should be completed within the first two weeks of the internship. By policy, Internship Proposals will not be approved after an internship has been completed.

C. Internship Responsibilities:

1. The **Internship Student's responsibilities** are:

   a. To identify and arrange an internship with a suitable external sponsor. The college career center will make every effort to assist the student, but makes no guarantee that such a position will be found.

   b. To develop an acceptable Internship Proposal in conjunction with the faculty supervisor and the external supervisor.

   c. To make necessary tuition payments to the college in accordance with requirements in effect at the time of registration.

   d. To bear the expense of traveling, subsisting, commuting and obtaining suitable business attire for the internship. External sponsors may choose to compensate the intern, but failure to secure a paid internship does not remove Engr 526/536 as a required course in the student's program of study.

   e. To work diligently, punctually, and creatively to provide the external sponsor with valuable, professional work product.

   f. To behave in an appropriate and professional manner, and to observe the sponsor's policies for employee behavior during activities undertaken on their behalf.

   g. To observe the external sponsor's lawful requirements with respect to the protection of intellectual and physical property.

   h. To diligently prepare an internship report that fully and accurately represents the internship experience, including the fulfillment of the learning objectives stated in the proposal.

2. The **Faculty Supervisor's responsibilities** are:

   a) To discuss the goals of the internship with the student as well as the external supervisor as the situation may require.

   b) To assure that the Internship Proposal is correctly and completely prepared, signed by all parties and a copy filed with the School of Engineering.

   c) To sign the paperwork required for course registration.

d) To receive and review the Internship Report and the external supervisor's evaluation, to complete a written evaluation of the internship documents and to record a final grade for the course.

3. The **External Supervisor's responsibilities** are:

a) To represent the external sponsor's goals and objectives fully and fairly for the work to be performed by the intern.

b) To fully explain company policies to the intern.

c) To provide full details of the financial arrangement to the intern.

d) To arrange for the intern to be assigned meaningful work, within their capabilities and to give the intern reasonable opportunities to observe and participate in activities as a learning experience.

e) To arrange for the student to be fully and fairly evaluated concerning his/her engineering knowledge, skill and application in doing engineering work and level of professionalism and diligence in carrying out assigned work.

D. Process to set up an Internship:

This process is conducted by the student in consultation with the Faculty Supervisor, who serves as the instructor of record for the internship. The student must complete the following steps to set up, conduct and receive a grade for an Industrial Internship:

1. Identify an employment opportunity of sufficient duration and at an appropriate level according to the *Internship Descriptions*, see Part A. Discuss the requirements with the External Supervisor and provide them with a copy of this document.

2. Determine the *Nature of Work to be Done*, i.e. understand the job description and find out what types of tasks will be assigned, and the job *Schedule*. As much information as possible should be obtained, although not all tasks will be known ahead of time. This information is to be included in the Internship Proposal.

3. Convert the general job description and specific tasks into a list of *Learning Objectives* to be included in the proposal.

4. Write an Internship Proposal using the information above and submit to the Faculty Supervisor for review, see Part E below. Proposals generally require editing by the student prior to approval, so extra time is usually needed for review and resubmission of the Internship Proposal for final approval.

5. Once approved, the student provides two paper copies of the proposal to the Faculty Supervisor, both signed by the student and the External Supervisor. Both copies will be signed by the Faculty Supervisor; one will be returned to the student for inclusion in the Internship Report; the second must accompany the course registration form and will be retained in the student's advisement file in in the School of Engineering. The Faculty Supervisor may, at his/her discretion, allow the use of scanned or faxed copies of the signed proposal in lieu of signed paper copies.

6. Provide the required registration form with the signed proposal, included as the final page of this document. The form must be signed by the Faculty Supervisor and the chair of the student's home engineering. Once signed, the student submits the form to the Registrar's office. The Registrar will register the student in a section of the appropriate course with the Faculty Supervisor as the instructor of record.

E. Sample Internship Proposal:

A sample proposal is given on the following two pages of this document. Students should follow the format of the document, providing the information as described in comments with brackets, e.g. < *modify as necessary* >. The proposal, particularly the Learning Objectives must be reviewed by the Faculty Supervisor before being presented to the External Supervisor for signature.

F. Internship Registration Form:

The necessary registration form is included as the last page of this document.

Date: **< *Date submitted or due date* >**
From: **< *Student name and engineering major* >**
Address:
E-mail:
Phone:

To: **< Faculty Supervisor >,** Maritime College Engineering
Re: Internship Proposal for ENGR 526/536/538 **< *include one course number only* >**

< *The following is for your information – it should not appear in the proposal* >
The purpose of this proposal is to describe the student's obligation to the Faculty Supervisor and the External Sponsor. It is the student's obligation to prepare the proposal and secure the required signatures on two copies. One copy is retained by the Engineering department; the second copy goes in the internship report. The proposal should be submitted prior to the commencement of the internship, or as soon as possible thereafter. Once the proposal is approved, the student registers for the course using the *Engineering Internship Registration Form* included at the end of this document.
< *end info* >

Nature of work to be done: **< *modify as necessary* >**

Mr./Ms. Student will work for Schuyler Power at their central generating station in Gotham City, NY under the supervision of Mr./Ms. J. Q. Engineer who will serve as external supervisor for the internship. The work will involve monitoring the overall performance of the power plant (including sub-systems), calibration of sensors, field inspection and data collection, project progress documentation, and other engineering tasks as determined by the employer.

Schedule: **< *modify as necessary* >**

The internship will begin on June DD, 20YY and will last for no less than (40/60) business days of at least eight-hour duration. Work hours will be X:00 AM – Z:30 PM, Monday through Friday. A final report will be completed by the student and delivered in accordance with "*Industrial Internships Engr Policy 19-01*". The final report is to be delivered to the faculty supervisor at the end of the third full week of September, on Sept. DD, 20YY.

Learning objectives: **< *modify as necessary* >**

1. To learn and understand power plant operation.
2. Test system performance and troubleshoot problems.
3. Properly size replacement equipment for old or damaged components.
4. Design or redesign systems to increase efficiency or to suit operational needs.
5. Perform sensor calibrations
6. Perform preventative maintenance checks and services

Deliverables: **< *include this section in full* >**

The deliverable for this project will be a final report documenting the learning experience. The report will be arranged in such a way that the engineering content of the work done by the student is demonstrated. The physical format of the report will include the following sections:

- Title page with student name, major, course name and number, faculty advisor, due date.
- Executive Summary (on its own page)
- Table of Contents (on its own page)
- Introduction including a description of the company, its function, spectrum of work, etc. and a general description of the capacity in which the student operated during the internship.
- Discussion including documentation and description of the engineering work participated in by the student. Work samples may include drawings, calculations, field notes, photographs, condition assessments, engineering reports, engineering correspondence, etc.
- Appendix: separate appendices should be used for the following:
    - A daily work log, including hours worked and brief summary of activity.
    - An employee evaluation completed by the internship mentor or other supervisory personnel. The evaluator may assign a letter grade to the internship if desired.
    - A signed copy of the internship proposal.
    - Other appendices as necessary.

< Note: Creation of an appropriate organizational structure and logical sequence to the report is up to the student. For example, content may be organized by date, by project, by work type, etc. Other documentation may be included at the discretion of the student or by request of the faculty evaluator. >

< Note: All figures (e.g. photos, diagrams, spreadsheets, etc.) in the report must have a figure number and a descriptive caption. Figures referenced in the text are to be included in the body of the report near where they are mentioned. Additional figures may go in a separate appendix, also with figure number and caption. >

Submitted by:

_____ Date: _____

< *Insert student name and engineering major here* >

Reviewed by:

_____ Date: _____

< *Insert External Supervisor name and title here* >

Approved by:

_____ Date: _____

< *Insert Faculty Supervisor name and title here* >

MARITIME COLLEGE
STATE UNIVERSITY OF NEW YORK

ENGINEERING INTERNSHIP REGISTRATION FORM

Students wishing to register for an Engineering internship must complete appropriate approvals and submit this form to the Registrar's Office prior to the start of the internship.

Student Information

Student ID#: _____

Name: _____
First Middle Last

Email Address: _____@sunymaritime.edu Phone: _____

Internship Information

Semester and Year the internship is taking place:
**Appropriate registration term will be determined by the Registrar's Office.*

Semester: ☐ Summer ☐ Fall ☐ Spring Year: _____

Approximate Start and End Dates: _____ to _____

Internship Course Number:
☐ ENGR 526 Industrial Internship I (3cr.)
☐ ENGR 536 Industrial Internship II (3cr.)
☐ ENGR 538 Extended Industrial Internship (6cr.)

Name of Company/Organization: _____

Internship Mentor: _____/_____
Name Professional Title/Position

Internship Registration Approval

Faculty Supervisor Name (please print): _____

Faculty Supervisor Signature: _____ Date: _____

Department Chairperson Signature: _____ Date: _____

Student Authorization

By signing below, you authorize registration into the above internship course and accept responsibility for all related charges billed to your student account.

Student Signature: _____ Date: _____