

ENGINEERING
STUDENT
EMPLOYMENT



PROGRAMS GUIDE

Spring and Summer 2011

● **ENGINEERING CAREER INSTITUTE (ECI)**

1 credit Spring Semester

● **CO-OP PROGRAM**

1-3 work semesters

2 credits each term (Spring, Summer, Fall)

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Overview

The Engineering Career Institute (ECI) - EAS 396 provides one academic credit for pre-employment classes with instruction on how to get the right job. This includes comprehensive instruction on how to conduct a successful student engineering job search. The semester is culminated with one week (30 hours) of presentations from industrial and academic experts who enlighten students on essential career-success subjects including leadership, communication, teamwork, value engineering, quality engineering, entrepreneurship, financial management, lean enterprise, academic careers, graduate school and other pertinent subjects. This unique program supplements a strong technical curriculum and immediately increases on-the-job effectiveness. The textbook for ECI is *Ready for Takeoff! - A Winning Process for Launching Your Engineering Career*, by Dean Millar, available at the UB Bookstore.

UB Engineering Co-op Program – EAS 496 Students are employed full-time on paid, credit-worthy technical assignments in industry with emphasis on practical application of engineering coursework. While each student is registered for two credit hours, full-time status at the University is afforded the student. This protects the student's insurance, loan and possible INS status. One to three work experience semesters may be taken in Spring, Summer and/or Fall. You will be billed by Student Accounts for 2 credits plus reduced fees for each work period.

Table of Contents

| | |
|---|------|
| Overview of ECI & Co-op Programs | 2 |
| Program Benefits. | 3 |
| Engineering Career Institute (ECI) | 4 |
| ECI Pre-Employment Classes | 5 –6 |
| Course Requirements. | 7 |
| ECI Industrial Success Class Schedule | 8 |
| Co-op Program | 9 |
| Co-op Employment Periods | 10 |

CO-OP BENEFITS

To Engineering Students

- Gain increased relevance of engineering curriculum and preparation for the “real world” of employment.
- Learn non-technical business success skills vital to career achievement.
- Gain exposure to a real engineering employment situation, with opportunity to demonstrate technical, leadership, and teamwork skills.
- Enhance marketability, career focus and on-the-job effectiveness.
- Increase your potential for a permanent job offer from sponsoring company.

To Industry

- Assign useful work to a qualified student.
- Evaluate a prospective employee through co-op performance.
- Hire better-prepared engineering employees in the future.
- Work more closely with UB Engineering and Applied Sciences, providing input regarding employment needs.

To the University

- Strengthen win-win relationship between UB Engineering and industry.
- Enhance marketability of School of Engineering and Applied Sciences to students and employers.
- Improve student’s ability to get the right job when they graduate.
- Build closer, more positive communication with local and national employers.

**EAS 396: Engineering Career Institute (ECI)
Spring 2011
One Credit, Pass/Fail**

Course Highlights:

- Job search and career preparation
- Essential non-academic skills for on-the-job success
- Experienced guest speakers from industry

Course Requirements:

1. Attendance at Pre-Employment Classes

Career Development, Self Analysis, Engineering Opportunities
Your Resume and Cover Letter
UB Career Services and Activating your On-line Application
Organizing and Executing Your Job Search
The Successful Interview
Follow-up Action and Starting Employment

**Attendance at
one session of
each subject
is Required.**

2. Attendance at Experts from Industry and Academia Classes —

- May 16-20, 2011 (Schedule p. 11)

Overview of Industry—Executive Panel
Teamwork
Leadership
Project Management
Financial Management
Value Engineering
Quality Engineering
Lean Enterprise
Dimensions of Engineering
Interpersonal Skills— (Panel)
Entrepreneurism (Panel of Entrepreneurs)
Academic Careers and Graduate School
Engineering Professionalism
Effective Written Communication and Public Speaking
Transition to Industry (Panel of Recent UB/ECI Grads)
Review of ECI/Co-op Requirements/Questions
Meeting of Students with their Faculty Advisor

**This is the week
following final
exams and
Commencement.**

**Attendance at all
classes is required.
Do not register for
ECI if you are un-
able to attend.**

3. Class reports and evaluations as described below.

Grading:

Pass/Fail based on:
Attendance and participation at all classes
Submission of on-line class report forms following each class, completing the selected end of chapter exercises from Ready for Takeoff!

Registration:

Register during your assigned spring registration window over MYUB or BIRD; Registration Numbers for EAS 396: ECI are— for Monday classes: **366249**, for Tuesdays: **242137**, for Wednesdays: **260582**, for Thursdays: **088402**.

ENGINEERING CAREER INSTITUTE PRE-EMPLOYMENT CLASSES

**Required Textbook: *Ready for Takeoff!* - A Winning Process for
Launching Your Engineering Career**

Part I: Pre-employment Success: Understanding Yourself and Getting the Right Job

Attendance: Attend one class in each subject. (Each session is the same)

1. Introduction to Your Career Development, Self Analysis, and Market Research of Engineering Opportunities (Chapters 1- 4)

| Date | Time | Location |
|-------------------|-------------|-----------------|
| Mon, January 24 | 3:00-3:50 | NSC 218 |
| Tues, January 25 | 4:00-4:50 | Knox 20 |
| Wed, January 26 | 5:00-5:50 | NSC 210 |
| Thurs, January 27 | 4:00-4:50 | Knox 20 |

2. Your Resume and Cover Letter (Chapter 5)

| Date | Time | Location |
|-------------------|-------------|-----------------|
| Mon, January 31 | 3:00-3:50 | NSC 218 |
| Tues, February 1 | 4:00-4:50 | Knox 20 |
| Wed, February 2 | 5:00-5:50 | NSC 210 |
| Thurs, February 3 | 4:00-4:50 | Knox 20 |

3. UB Career Services and How to Activate Your On-line Application (Chapter 6)

| Date | Time | Location |
|--------------------|-------------|-----------------|
| Mon, February 7 | 3:00-3:50 | NSC 218 |
| Tues, February 8 | 4:00-4:50 | Knox 20 |
| Wed, February 9 | 5:00-5:50 | NSC 210 |
| Thurs, February 10 | 4:00-4:50 | Knox 20 |

ENGINEERING CAREER INSTITUTE PRE-EMPLOYMENT CLASSES (con't)

4. Organizing and Executing Your Job Search (Chapter 7)

| Date | Time | Location |
|--------------------|-------------|-----------------|
| Mon, February 14 | 3:00-3:50 | NSC 218 |
| Tues, February 15 | 4:00-4:50 | Knox 20 |
| Wed, February 16 | 5:00-5:50 | NSC 210 |
| Thurs, February 17 | 4:00-4:50 | Knox 20 |

5. The Successful Interview (Chapter 8)

| Date | Time | Location |
|---------------------|-------------|-----------------|
| Tues, February 22 | 4:00-4:50 | Knox 20 |
| Wed, February 23 | 5:00-5:50 | NSC 210 |
| Thurs, February 24 | 4:00-4:50 | Knox 20 |
| Friday, February 25 | 3:00-3:50 | Bonner 414 |

6. Follow-up Action and Starting Employment (Chapters 9 and 10)

| Date | Time | Location |
|------------------|-------------|-----------------|
| Mon, February 28 | 3:00-3:50 | NSC 218 |
| Tues, March 1 | 4:00-4:50 | Knox 20 |
| Wed, March 2 | 5:00-5:50 | NSC 210 |
| Thurs, March 3 | 4:00-4:50 | Knox 20 |

ENGINEERING CAREER INSTITUTE (ECI) PRE-EMPLOYMENT CLASSES (con't)

COURSE REQUIREMENTS

1. REPORTS

For a passing grade, submit your completed reports within one week after each class for Subjects 1- 6 at the following Internet site: www.eng.buffalo.edu/eci. For your first log-in, create a password; then a verification email will be sent to you at your __@buffalo.edu address; click the link on the email to log in for the first time. You can change this password any time.

Note that when you reach the site there is an on-line form for ECI classes 1- 6 which list the subject and status for each class. Before submitting your form, the status says “not completed” for each subject. After class, please complete the selected brief end-of-chapter exercises from *Ready for Takeoff*. As soon as you submit the electronic form the status column will indicate “completed”.

Class reports for the Experts from Industry classes are required at the end of each day during the May 16 – 20 ECI Industrial Success Week . Each subject will have an electronic report form for you to complete. Method of submission is described above.

2. ATTENDANCE

Attendance sheets will be passed around at each class. To receive a passing grade in ECI you need to attend classes 1– 6 along with the Experts from Industry class week from May 16 - 20.

ENGINEERING CAREER INSTITUTE

Week of Engineering Experts from Industry and Academia Classes May 16 –20, 2011

- Professional Functions and Opportunities (Chapters 11-19)
- Personal and Professional Success Skills (Chapters 20-26)

Classroom to be announced

| <u>Date</u> | <u>Time</u> | <u>Subject</u> |
|---|------------------|---|
| Attendance at all classes (a.m. & p.m.) is required. | | |
| Monday, 5/16 | 9 a.m. -10 a.m. | Value Engineering |
| | 10 a.m. -11 a.m. | Lean Enterprise |
| | 11 a.m. -12 noon | Financial Management |
| | 1 - 4 p.m. | Overview of Industry—Executive Panel |
| Tuesday, 5/17 | 9 a.m. 11a.m. | Writing and Presentation Skills |
| | 11 -12 noon | Leadership |
| | 1 - 2 p.m. | Leadership |
| | 2 - 4 p.m. | Interpersonal Skills (Panel) |
| Wednesday, 5/18 | 9 a.m. - 12 noon | Dimensions of Engineering (Panel) |
| | 1 p.m.-2 p.m. | Quality Engineering |
| | 2 - 4 p.m. | Transition to Industry (Panel). |
| Thursday, 5/19 | 9 a.m. -12 noon | Entrepreneurism (Panel of Entrepreneurs) |
| | 1 - 2 p.m. | Academic Careers and Graduate School |
| | 2 – 4 p.m. | Project Management |
| Friday, 5/20 | 9 a.m. – 11 a.m. | Teamwork |
| | 11a.m.– 12 noon | Engineering Professionalism |
| | 1 – 2 p.m. | Engineering Professionalism |
| | 2 – 2:30 p.m. | Review of ECI/Co-op Requirements/ Questions |
| | 2:30 – 3 p.m. | Meeting of Students with their Faculty Advisor—Specific Requirements/Questions |

Note: for a passing grade, submit your on-line class reports for subjects each day.
Grades are submitted on Friday, 5/20.

EAS 496: Engineering Co-op Program

Spring, Summer, and/or Fall

Two Credits per semester

Course Highlights

- Apply SEAS coursework and skills to achieve valuable technical employment project results.
- Gain credit-worthy, paid (we suggest \$10-\$20/hour), work experience.
- Access to BullsEye placement system for posting resumes and searching for jobs.
- Maintain full-time student status with the University.

Course Requirements

- Students may join the Co-op Program once they have obtained an approved technical, full-time employment offer for one to three work periods. Emphasis must be on practical application of engineering coursework. You will be billed for 2 credits plus reduced fees for each work period.
- Prepare and present a written and oral project report at conclusion of each industrial work experience period, i.e., semester. The oral presentation is made to participating company management, with written report submitted to company supervisor and departmental Co-op faculty advisor (assigned at time of registration). In addition, PowerPoint slides are submitted to the faculty advisor.
- Submission of the following required forms:
 - Work assignment objectives and expectations
 - Evaluation of co-op student by company supervisor
 - Evaluation of co-op program by student
 - Student project information for SPIR report
 - Employer satisfaction survey

Grading

Students will receive a pass/fail grade from their faculty advisor based on:

| | |
|--|-----|
| Job performance appraisal by company supervisor | 40% |
| Project written report | 25% |
| PowerPoint report presentation. | 15% |
| Professionalism: communication with faculty advisor, including timely submission of required forms as listed above..... | 20% |

Registration

Students register by completing Participating Co-op Data Sheet which is available by contacting Dean Millar in the Engineering Student Employment Programs office, 412 Bonner Hall, dcmillar@buffalo.edu, 716-645-0971.

* International students must contact the Engineering Student Employment Programs office, 412 Bonner, dcmillar@buffalo.edu, 716-645-0971 to obtain a letter requesting **CPT** approval before they can be considered for co-op employment.

CO-OP EMPLOYMENT—2011

Spring Co-op Employment Period January 17 through May 2
Summer Co-op Employment Period – May 23 through August 12
Fall Co-op Employment Period to be announced.

- All co-op students must initiate contact with their faculty advisor between May 23 – June 10 to review and get approval of their work assignment objectives and expectations form (listing project objectives, expected results and student action plan).
- Maintain contact with your faculty advisor as requested

You will show your employer your project report and obtain a completed **Evaluation of Student by Company Supervisor, Employer Satisfaction Survey , and a 2011 Student Project Information Sheet (SPIR)**, located on the website at www.eng-intern.buffalo.edu/forms, by the time you conclude co-op course employment on August 12.

Students submitting reports and evaluations late will receive an I/F grade. It is your responsibility to connect with your faculty advisor on timely completion of course requirements.

Ready for Takeoff!

A Winning Process for Launching Your Engineering Career

Dean C. Millar

Assistant Dean, Engineering, University at Buffalo, SUNY

© 2011 • ISBN: 0136081274 • Available August 2010

Specific examples and insights from industry experts explain the steps students need to identify—and go after—the right engineering job. *Ready for Takeoff!* addresses **ABET's Criterion 3, Program Outcomes** (listed by ABET nomenclature):

- (a) An ability to apply knowledge of mathematics, science, and engineering: Ch 11-26
- (d) An ability to function on multi-disciplinary teams: Ch 21-24
- (f) An understanding of professional and ethical responsibility: Ch 16
- (h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context: Ch 11, 16, 18, 19, and 24
- (i) Recognition of the need for, and an ability to engage in, life-long learning: Ch 11, 18, 19, 25, and 26
- (j) Knowledge of contemporary issues: Ch 4, 7, 10-19, and 24
- (k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice: Ch 1-26

Table of Contents

I. Pre-Employment Success: Understanding Yourself and Getting the Right Job

1. Introduction and Your Four-Year Plan of Career Development
2. Important Life Realities
3. Self-Analysis: Your First Career Step
4. Market Research: Engineering Opportunities
5. Your Resume and Cover Letter
6. Your University's Career Center
7. Organizing and Executing Your Job Search
8. The Successful Interview
9. Follow-Up Action
10. Starting Employment

II. Professional Functions and Opportunities

11. Overview of Industry:
Executive Panel
12. Project Management
13. Value Engineering
14. Quality Engineering
15. Lean Enterprise
16. Engineering Professionalism,
Ethics, and Responsibility
17. Entrepreneurism
18. Academic Careers and
Graduate School
19. Becoming a Global Citizen

III. Personal and Professional Success Skills

20. Self Reliance, Planning, and
Time Management
 21. Empowerment and Motivation
 22. Interpersonal Skills
 23. Teamwork in Industry
 24. Leadership
 25. Effective Writing and
Presentation Skills
 26. Transition to Industry
- Recommended Reading for
Success
- Index

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