

**ATTENTION
MECHANICAL ENGINEERING MAJORS**

**PROFESSIONAL PRACTICE PROGRAM
ME 471, EGR 481, EGR 482 (1,2,2)**

(An alternative to Project Design Prin. & Apps. EGR481/482 or
Senior Project, ME461/462 or Team Senior Project, ME460)

Supervised employment in a professional engineering environment. Placement arranged by student and approved by faculty advisor. Requires satisfactory completion of work assignment (20 hours per week for three quarters), periodic written progress reports and a final report. This option basically gives academic credit for engineering work experience.

Here are the requirements:

- 1) You have completed **all** your 200-level courses.
- 2) You have completed a minimum of **seven** 300-level courses.
- 3) Your company submits an official letter stating that
 - a) you will be working at least 20 hours a week for 3 quarters and
 - b) you will be supervised by a degreed engineer.
- 4) Additionally, the letter needs to include a position description that will be evaluated by the ME Dept and a company brochure that describes the company's business.
- 5) If you are on the 2003/2004 or later curriculum you need to enroll in ME471(1 unit) the first quarter and EGR481(2 units) and EGR482(2 units) the 2nd and 3rd quarters respectively.
- 6) If you are on an earlier curriculum then you would enroll in ME471/2/3 the 1st,2nd and 3rd quarters respectively. You would then, after completing the internship, and by academic petition, receive credit for ME461/2 Senior Project.

Retroactive credit for previous work experience is not available.

See Prof. Berkowitz (Room 17-2346) for additional information.

THE ME PROFESSIONAL PRACTICE PROGRAM

All engineering students on the 2003/4 or later curriculum are required to take EGR 481/2 (Project Design Principles & Applications) which satisfies the GE requirement as well as our Senior Project requirement. However, some students are not interested in doing an individual senior project but rather seek an engineering internship with a local company.

It is the responsibility of the student to obtain this internship. Additionally, there is also a University Co-Op program wherein the student applies for an advertised position through the University Co-Op office in building 8/333. However, this internship (the University Co-Op program) may not be approved for credit by the ME department.

The ME Professional Practice Program does allow our students with senior standing the opportunity to receive credit for 4-units of EGR 481/2 through an approved internship (See the following requirements for approval *). Once the position offer is received, the student must submit an official company letter to the Professional Practice Coordinator (Professor Len Berkowitz) before, but no later than the Add period of the quarter in order to enroll in the required class. The student will not be able to enroll by way of Bronco Direct until this approval is transmitted to the department secretary (Lita Patel) who will then give the student the necessary computer number needed to add the class.

* The requirements for acceptance to the program are as follows:

- 1) You have completed **all** your 200-level courses.
- 2) You have completed a minimum of **six** 300-level courses.
- 3) Your company submits an official letter stating that
 - a) you will be working at least 20 hours a week for 3 quarters, and
 - b) you will be supervised by a degreed engineer.
- 4) Additionally, the letter needs to include a position description that will be evaluated by the ME Dept and a company brochure that describes its business.
- 5) If you are on the 2003/2004 curriculum you need to enroll in ME471 (1 unit) the first quarter and EGR481 (2 units) and EGR482 (2 units) the 2nd and 3rd quarters respectively.
- 6) If you are on an earlier curriculum then you would enroll in ME471/2/3 the 1st, 2nd and 3rd quarters respectively. You would then, after completing the internship, and by academic petition, receive credit for ME461/2 Senior Project.

NOTE: Retroactive credit for previous work is not available for credit.

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA
COLLEGE OF ENGINEERING
DEPARTMENT OF MECHANICAL ENGINEERING
GUIDELINES FOR PROFESSIONAL PRACTICE WORK REPORTS
(FOR ME 471, 472 and 473)

PROFESSIONAL PRACTICE WORK REPORTS are submitted to the Professional Practice Advisor by students during the last week of classes for the quarter. These reports will help the Professional Practice Advisor follow and evaluate the experiences of the students.

Reports will be evaluated and graded by the Professional Practice Advisor. They will also be circulated to the Department Chair and appropriate engineering faculty for general information. Copies will be placed in the Mechanical Engineering Department office to provide information to other students who are trying to decide upon the Professional Practice work opportunities they wish to pursue.

The PROFESSIONAL PRACTICE WORK REPORT requires the student to reflect upon his or her experiences and thereby gain additional educational benefits in the process. It will give the student experience in writing technical and general reports. The report will be evaluated on organization, technical content, and the ability to express facts and ideas. These elements contribute significantly to a student's progress in the University and to an employee's progress in any organization.

The following guidelines should be followed in preparing a PROFESSIONAL PRACTICE WORK REPORT:

A. GENERAL PRESENTATION

Double-spaced typing is required. Only one side of 8 1/2" x 11" unruled paper should be used. Pages should be numbered consecutively in the upper right-hand corner; each section should have a title (see further discussion below) and all illustrations should be captioned. Binding should be done by stapling all pages together in the upper left-hand corner. The report should not be submitted in a folder. One copy along with the original is required.

B. ORGANIZATION AND CONTENT

1. The title page, unnumbered, should include the following information in the order listed:

ME 471 or 2 or 3

PROFESSIONAL PRACTICE WORK REPORT

Author's Name (SSN)

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA

MECHANICAL ENGINEERING DEPARTMENT

Employer

Date

This Professional Practice Work Report has been submitted to (Supervisor's name) and has been approved for release and submission to Professor (Professional Practice Advisor's name) in fulfillment of the requirements for ME (471 or 472 or 473).

2. The Table of Contents is the next page and, like the title page, should not be numbered.
3. The third page, also unnumbered, is the completed STUDENT EVALUATION OF PROFESSIONAL PRACTICE EXPERIENCE form.
4. The fourth unnumbered page is the completed EMPLOYER'S EVALUATION OF PROFESSIONAL PRACTICE STUDENT form.
5. The body of the report should be numbered consecutively.
6. ME 471 requires that you submit only Section I.

ME 472 requires that you submit an updated version of Section I. (You may skip Item (a) of Section I if you have not transferred to another organization.)

ME 473 requires a complete report (i.e., both Section I and II).

SECTION I

DESCRIPTION AND EVALUATION OF THE PROFESSIONAL PRACTICE ASSIGNMENT AND RELATED EXPERIENCES

The purpose of this section of the report is to give the student the opportunity to put the total Professional Practice experience into perspective and to provide other Cal Poly engineering students with an in-depth picture of Professional Practice employment opportunities so they can make better employment choices. This part of the report should cover the following points:

- a. Brief description of the organization for which you worked—kind of business or service, products, history, functions and responsibilities of various departments, how your department fits into the overall organization, physical facilities and facts about the employer (affiliates, locations, number of employees, etc.).
- b. Description of work experiences throughout the work term. **THIS SECTION NEEDS TO BE SPECIFIC AND TECHNICAL.** Were any job assignments on a recurring basis (e.g., weekly sampling of air pollutants)? Were any special projects assigned? If so, were they completed before the end of your work term?
- c. Job satisfaction. Was your work satisfying? Did it meet your expectations? Did it get better as the work term progressed? Explain.
- d. Relevancy of work experience. Were your work assignments related to your field of study? How? Did the work experience help you to find a special area of interest within your academic field?
- e. Responsibility. Were you given real responsibility by your employer? Did you feel that you were part of the total "team effort?"
- f. What was the general educational and professional level of your working associates (e.g., technicians, graduate engineers, etc.)?
- g. Observations of other students you worked with. What did other students, including those from schools other than Cal Poly, do, and what was their reaction?
- h. During this quarter, what Cal Poly courses did you take? Was your combined workload and school load manageable? Would you do it differently next time?

The above topics are recommended as general guidelines for Section I of the PROFESSIONAL PRACTICE WORK REPORT. Not all of them are necessarily applicable to each specific case. This part of the report is intentionally set up to be "open-ended," to provide maximum freedom of expression.

Section II is the "technical" section of the report. The title should reflect the subject and be listed according to the following example:

SECTION II

TECHNICAL REPORT

TITLE (e.g., USE OF THE COMPUTER
IN DESIGNING A WATER DISTRIBUTION SYSTEM)

A wide range of subject matter is permissible, provided there is a connection with the work experience. Research and reading are REQUIRED. This section of the report should be sufficiently well written to be published in a technical journal or for use as supplemental reading in one of your engineering courses. A typical report might consist of 6-10 pages, double spaced, and would contain appropriate illustrations. The report is expected to be the student's own work, with appropriate references to sources used to prepare the report. **YOU MUST RECEIVE FACULTY APPROVAL OF THE SUBJECT PRIOR TO STARTING YOUR RESEARCH.**

The minimum report format will be as follows:

- Summary
- Introduction
- Discussion
- Conclusions and/or Recommendations
- List of References
- Glossary (if needed)

Possible topics might be:

- a. The design, development, manufacture or testing of equipment or products with which the student was associated while on the job.
- b. A detailed history of the development of a technical process with which the student was associated, e.g., SMOKE TESTING TO DETECT SEWER LINE LEAKS.
- c. A technical essay on the effect of some aspect of technology on society in general, e.g., CONSUMER APPLICATIONS OF THE MICROCOMPUTER.
- d. An argument, pro or con, on the potential values (or hazards) of a particular technological endeavor, e.g., THE FUTURE OF NUCLEAR POWER.

C. EVALUATION

The following procedures will be followed in evaluating PROFESSIONAL PRACTICE WORK REPORTS:

1. As previously noted, two copies of the work report are to be submitted to the Professional Practice Advisor during the last week of classes for the quarter the student is at work.
2. The Professional Practice Advisor will evaluate the report for format, grammar, spelling, technical content, etc. and will make written suggestions for improvement on the original report.

3. The complete report, including the Professional Practice Advisor's comments and suggested improvements, will be returned to the students following review by the Department Chair. Each report will be discussed personally with the student after the Professional Practice Advisor has read it, usually within two weeks of the due date.
4. If, in the judgment of the Professional Practice Advisor, the report should be re-written, the student will have two weeks to incorporate the suggested changes and resubmit the revised report.

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA
 COLLEGE OF ENGINEERING
 DEPARTMENT OF MECHANICAL ENGINEERING
 EMPLOYER'S EVALUATION OF PROFESSIONAL PRACTICE STUDENT

Student _____

Date _____

Work Period _____

Position Title _____

Employer _____

Address _____

INSTRUCTIONS: The immediate supervisor will evaluate the student objectively, comparing him with other students of comparable academic level, with other personnel assigned the same or similarly classified jobs, or with individual standards.

<p>RELATIONS WITH OTHERS</p> <ul style="list-style-type: none"> <input type="checkbox"/> Exceptionally well accepted <input type="checkbox"/> Works well with others <input type="checkbox"/> Gets along satisfactorily <input type="checkbox"/> Has some difficulty working with others <input type="checkbox"/> Works very poorly with others 	<p>ATTITUDE—APPLICATION TO WORK</p> <ul style="list-style-type: none"> <input type="checkbox"/> Outstanding in enthusiasm <input type="checkbox"/> Very interested and industrious <input type="checkbox"/> Average in diligence and interest <input type="checkbox"/> Somewhat indifferent <input type="checkbox"/> Definitely not interested 										
<p>JUDGMENT</p> <ul style="list-style-type: none"> <input type="checkbox"/> Exceptionally mature <input type="checkbox"/> Above average in making decisions <input type="checkbox"/> Usually makes the right decision <input type="checkbox"/> Often uses poor judgment <input type="checkbox"/> Consistently uses bad judgment 	<p>DEPENDABILITY</p> <ul style="list-style-type: none"> <input type="checkbox"/> Completely dependable <input type="checkbox"/> Above average in dependability <input type="checkbox"/> Usually dependable <input type="checkbox"/> Sometimes neglectful or careless <input type="checkbox"/> Unreliable 										
<p>ABILITY TO LEARN</p> <ul style="list-style-type: none"> <input type="checkbox"/> Learns very quickly <input type="checkbox"/> Learns readily <input type="checkbox"/> Average in learning <input type="checkbox"/> Rather slow to learn <input type="checkbox"/> Very slow to learn 	<p>QUALITY OF WORK</p> <ul style="list-style-type: none"> <input type="checkbox"/> Excellent <input type="checkbox"/> Very good <input type="checkbox"/> Average <input type="checkbox"/> Below average <input type="checkbox"/> Very poor 										
<p>ATTENDANCE: <input type="checkbox"/> Regular <input type="checkbox"/> Irregular</p>	<p>PUNCTUALITY: <input type="checkbox"/> Regular <input type="checkbox"/> Irregular</p>										
<p>OVER-ALL PERFORMANCE:</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: none;">Outstanding</td> <td style="border: none;">Very Good</td> <td style="border: none;">+ Average -</td> <td style="border: none;">Marginal</td> <td style="border: none;">Unsatisfactory</td> </tr> <tr> <td style="border: 1px solid black; width: 15%; height: 20px;"></td> <td style="border: 1px solid black; width: 15%;"></td> <td style="border: 1px solid black; width: 15%;"></td> <td style="border: 1px solid black; width: 15%;"></td> <td style="border: 1px solid black; width: 15%;"></td> </tr> </table>		Outstanding	Very Good	+ Average -	Marginal	Unsatisfactory					
Outstanding	Very Good	+ Average -	Marginal	Unsatisfactory							

On a scale of A,B,C,D,F (including +/-) how would you rate the student on the following:
 (Please use an **X** if not applicable or if unable to rate.)

- _____ Ability to function effectively on a multi-disciplinary team
- _____ Written communication skills
- _____ Oral presentation skills
- _____ Interest in life-long learning and/or maintaining currency in professional area
- _____ Knowledge of contemporary issues important to his/her job

Additional remarks (over if necessary).

This report has been discussed with the student.

_____yes _____no

Supervisor's name _____

Title _____

Signature _____

Telephone _____

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA
DEPARTMENT OF MECHANICAL ENGINEERING

STUDENT EVALUATION OF PROFESSIONAL PRACTICE EXPERIENCE

Student _____ Bronco ID _____ Home Phone No. _____

Professional Practice Course No. _____ No. of Hours Completed with This Employer _____ Approx. Units Remaining Before Graduation _____

Employer _____ Business Phone No. _____

Immediate Supervisor _____ Supervisor's Phone No. _____

Assigned Duties (This information should be concise and descriptive of all basic duties).

Date Started _____ Date Stopped _____ Weeks _____ Monthly Rate of Pay _____

If you, objectively, feel that your experience could be more successful, how might the Mechanical Engineering Department or your employer help?

After careful consideration, do you feel that this experience had educational and/or training value? Why or why not?

What college courses were of specific help in accomplishing your job?

Any additional, informative, comments you might have for a fellow student and/or faculty would be appreciated. Please add these on the back side of this page.

Student's Signature _____ Date _____