

MEMORANDUM

TO: Mechanical Engineering Co-op Students

FROM: Faculty Co-op Advisor (for reports): Richard B. Griffin, Ph.D., P. E.

RE: REPORT GUIDELINES and RELATED INFORMATION and POLICES

DATE: August 2003

NOTE: YOUR Fall 2003 SEMESTER REPORT IS DUE **Tuesday, December 9, 2003**

This note contains several important points regarding logistics and directions for preparing and submitting your reports. **Please read it carefully.** Note that the following comments, suggestions, and reminders are intended to be supplemental to the materials prepared by the Office of Cooperative Education. Each co-op student should pick up copies of all of these guidelines from the Co-op Office on campus before beginning each work term. Some information will be repetitious to students on second or higher work terms but please check through everything to refresh your memories and make sure you get any more recent changes or additions.

Please make note that I serve as "Co-op Advisor" for reports and report-related issues only. Our Associate Department Head, Dr. Dennis O'Neal, and the staff in the Undergraduate Program Advising Office (Cathy Sperry, Darinda Harner, and Martha Price) will continue to advise you on matters related to the curriculum, degree plans, and other administrative issues pertaining to the co-op program. My main task is grading reports and handling questions related to the reports. In the latter regard, you can contact me directly by e-mail at rgriffin@mengr.tamu.edu or call me at 979.845.9779.

Reports

You should have already received the "GUIDELINES FOR *ENGINEERING* CO-OP REPORTS" with the packet picked up from the Co-op Office before leaving campus. The following items are meant to supplement these guidelines for the reports and also provide additional information on other issues. Any MEEN directions or guidelines supersede or override the more general guidelines.

Students may do either a work experience report or research report. It would be my opinion that the work experience might be suitable for one or two terms, while the remaining terms it may be more appropriate to prepare a research paper. The following suggests may help in the preparation of the papers.

WorkExperience

For a work experience report, you must focus on your activities while on the co-op assignment. You may identify several activities that you have done during your work term. I am not interested in a daily diary of your activities. However, at least one of your jobs should be expanded to include the engineering significance or importance of that particular activity to the company or to the particular project you were contributing to. Such questions as the following should be addressed:

- What did you actually do? (Be specific and give details.)
- How did that fit into the bigger picture for the company or the project?

- What were the engineering aspects of the activity? (Testing, measuring, calculations, etc.)

Research Paper

For a research paper, my recommendation is that you choose a topic related to your work activity. It is not a requirement to do that, and you may be passionate about a subject that is not related to your work. If you are short on ideas, many of your supervisors will have suggested topics that you might write about or you can call or e-mail me and we can discuss subjects.

If the company you are working for has strict proprietary/trade secret limitations about what you can write, please come to agreement with your supervisor about what you can write about generically-with key information omitted or altered. Also, you may work with me so that I only see the paper for the grade and then destroy it or return it to your supervisor.

- A. At the end of the semester, you should send me a letter of transmittal, a copy of your signed report, and the employer evaluation form (blue sheet). A sample of letter of transmittal is attached to this memo. Please address your package as follows:

Dr. Richard Griffin
MEEN Dept. 3123
Texas A&M University
College Station, TX 77843-3123

For this semester, I am going to try something new. You may submit your letter of transmittal and co-op report electronically to me at rgriffin@mengr.tamu.edu. The blue employer evaluation you can send either way.

- B. Your reports may be picked up from Ms. Dickens in room 324 ENPH or if we communicate electronically, I can e-mail you back my evaluated copy.
- C. Copies of your evaluation of your work experience and employer evaluation of you (no reports please!) should be mailed to the TAMU Office of Cooperative Education. Be sure to make and retain a copy of the report and related documents for yourself just in case the others are lost in the mail. Submit addendum on-line.
- D. The posted due dates for each work term should be observed as much as possible. A report, or at least letter, must be postmarked or e-mailed by the due date to be considered "on time". I realize, however, that circumstances will arise that prevent the report being submitted on time. In this event, please follow the procedures listed below.
 1. Contact me by phone (979.845.9779) to get verbal permission or by e-mail rgriffin@mengr.tamu.edu. I have voice mail and you can often simply leave a message of explanation.
 2. Be sure to note in your letter of transmittal that we agreed to an extension and indicating the reason.
 - a. For the summer 2003 semester, reports and supplemental documents must be postmarked by Monday, August 11, 2003.
 - b. If you have any questions, you can also contact me by e-mail at rgriffin@mengr.tamu.edu or leave a voice mail at 979.845.9779.
 - c. If I do not have a report or letter (e-mail) from you by the due date your grade will be lowered by one full letter grade.

3. Then please be patient! Typically, all reports received (or postmarked) after the posted due date will receive a grade of incomplete ("I") for the semester of the work term. These will be collected and retained until all (or most) late reports are received, which may be a month or two into the next semester. Once all or most of the late reports are received, another round of grading will be conducted and appropriate forms submitted changing the "I" grades.
4. Furthermore, please submit your addendum and employer evaluation with the Co-op report, even if they are ready before the due date. Conversely, do not send your report without these forms included unless there are justifiable extenuating circumstances to do so. Your submission will be considered incomplete if all items are not included.
5. Also, don't forget that the responsibility for ultimately submitting a late report rests with the student. You will not be reminded that your report is late or overdue. Grades not changed from "I" will automatically be changed to "F" one semester later, as described in University policies.
6. Unexcused late reports will be penalized one letter grade for each week late.

E. More detailed guidelines/reminders for the report:

1. Follow the format of the sample title pages.
2. Follow the guidelines for the content of the Abstract. Remember that the entire report should be summarized in the Abstract! The abstract should include What, Why, How, and Results. Brevity is important; generally 150 words or about ½ a page is sufficient. The person reading the title of the report, the authors name and the abstract needs to be able to make a decision whether or not he/she wants to read the paper or report. No mention of figures or references or page numbers should be included in the abstract. Sample abstracts are enclosed representing both extremes in terms of quality and detail.
3. Include page numbers and major subheadings in the Table of Contents. Number all pages in the report, including those in any appendices.
4. The "body of paper" should generally be divided into sections with several descriptive headings and subheadings. Do not use a single heading entitled "Body"!!
5. Always try to include figures or tables on the same following page as the first reference to them in the text. If for some reason the figure or table is not on the same or following page then give the page number in parentheses. This will be a tremendous aid to the reader and avoid excessive thumbing through pages "hunting" for information. By the time it is found the point may very well be lost. Also include the page number for any specific information in an Appendix that may be referred to in the main body of the report. This of course implies that all pages in the Appendix should be numbered as well.
6. Use an Appendix (or several) to place information containing "excessive detail". This is admittedly somewhat of a "judgement call" but simply try to be reasonable (put yourself in the place of the reader). All figures or calculations should not be simply placed in the Appendix.
7. Each item listed in the References must be cited within the text somewhere. Note as well that every paper is required to have at least 3 references and not all can be "Personal Communication". Use a "hanging indent" in the list of references and follow

the format of the examples given in your Guidelines. List the references in alphabetical order. Cite the references in the text one of the following ways:

- ⇒ ... research has shown that rectifiers are neat (Hall, 1993).
 - ⇒ According to Wooldridge (1992) the human brain is a machine.
 - ⇒ Several studies confirm ... (Hall, 1993; Wooldridge, 1992; Smith *et al.*, 1994; Jones and Smith, 1989). {note separation by semicolons}
8. An acceptable alternate method for citing and listing references is to list them numerically in the order in which they are cited within the text. Follow the same format as the examples for listing the references but number them accordingly. Use square brackets [] and numbers to cite them in the text:
- ⇒ ... research has shown that rectifiers are neat [1].
 - ⇒ According to Wooldridge [2] the human brain is a machine.
 - ⇒ Several studies confirm ... [1, 2, 5, 8].
9. The most common reason for a lower grade is simply either lateness or not following instructions!

Best wishes for an enjoyable, productive, and educational work term.

No. 8 is the method that I would recommend. It is the method most commonly used in engineering journals.

FAQ

1. Q. How long?
A. The paper should be 10 to 15 pages in length, not counting appendices.
2. Q. How many references?
A. There should be a minimum of five references, with a minimum of three library references. In other words no more than two internet references from the minimum of five.\
3. Q. Where do titles and figure captions go?
A. For tables the caption goes at the top, while for figures the caption goes underneath. This is not the only way, but it is, in my opinion, the most common technical method.
4. Q. What font size and spacing should be used?
A. Please use font size 12 and double-space your report.
5. Q. May I send my co-op report electronically?
A. Yes, you may send your report to me electronically.

SUBMISSION GUIDELINES

What follows are guidelines for what must be submitted with your report by the due date:

1. **ADDENDUM** (summary of work experience)
2. **SUPERVISOR'S EVALUATIONS** of the student (blue form)
3. **A LETTER OF TRANSMITTAL**

Also included are two samples of actual paper abstracts and a sample of actual letter of transmittal.

ADDENDUM **Summary of Work Experience** Confidential from co-op student to Dr. Richard Griffin

INSTRUCTIONS ON COMPLETING ON-LINE ADDENDUM

1. Access your on-line account through the Career Center/Co-op web-site.
2. Click on "I've Got a Co-op Job."
3. Select the semester for which you are completing addendum (i.e. Spring 2003)
4. Click on "Addendum."
5. Complete each section as indicated.
6. After completing all sections, be sure to hit the "submit" button.
7. Print hard copy to send to the Faculty Co-op Advisor in your Department by hitting "printable version."

EXAMPLE OF LETTER OF TRANSMITTAL

December 3, 1999

John Dow
1310 E. 35 St.
Apt. #1113
Texarkana, AR 71854

Dr. Richard Griffin
Co-op Report Advisor
3123 TAMU
Texas A&M University
College Station, TX 77843-3123

Dear Dr. Griffin

I have enclosed a copy of my third term co-op report, addendum, original work experience evaluation and original employer evaluation for my co-op at Cooper Tire & Rubber Co. The report reviews my Fall 1999 semester at Cooper Tire, in Texarkana, AR, including my experiences in: uniformity trial spotting, loader height audits, liner width and gauge studies, SRA's, bead former studies, green tire audits, conicity checks, defects, chafer gauges, and X-ray.

If you have any questions regarding the report, addendum or evaluations, please feel free to contact me. I can be most easily reached by email at johndow@aol.com or by phone at (979) 772-1519. Thank you for taking the time to review this report.

Sincerely,

John Dow

Attachments: Co-op Report
Addendum
Employer's Evaluation (blue form)

EXAMPLE OF AN ACCEPTAABLE ABSTRACT

Abstract

The purpose of this report is to examine and describe the fretting wear failure of an aluminum cable steel reinforced conductor in Brazil. The line crossing the Parana River ruptured in 2002. Fretting wear between the individual metals strands of the wire and between the wire and metal clamps on the wire was the cause of the failure. Slight motion, caused by the wind, between the contacting surfaces produced wear particles, including aluminum oxide and oxidized silicon particles. This debris abraded the surfaces of the wires and the clamp, increasing the wear rate. Gross slip regime was observed, corresponding to a high wear rate. Eventually, the aluminum outer layer of the wire fractured at the location of a clamp. The steel inner layer followed with a ductile rupture. The use of lubrication and the redesign of clamps on line would prevent or reduce the fretting wear.

EXAMPLE OF AN UNACCEPTABLE ABSTRACT

ABSTRACT

In this paper I intend to describe the work that I did for my second work term as a maintenance engineer. I mention the everyday tasks that I was assigned in the introduction of the paper and then leave the body of the paper to describe a major repair job that I was involved in.

Comment

Not enough detail. Does not include Why, What, How, and Results.

Remember the author's name and the title of the abstract should be included so that a reader can decide from that information whether or not they would like to read the full report.