

**CE 4393 – Industrial Internship
Course Description
Civil Engineering Department
University of Texas at Arlington**

CE 4393 – Industrial Internship is a CE senior technical elective and may be used in partial fulfillment of the CE program requirement for five such technical electives. CE 4393 cannot be associated with any of the six areas of civil engineering in the undergraduate program at UTA and cannot be designated a design elective. Consequently, the remaining four technical electives must include electives in at least three and a design elective in at least one of the areas other than structures: construction, environmental engineering, geotechnical engineering, transportation engineering, and water resources engineering. A student must be admitted to the Civil Engineering Professional Program without qualification to attempt CE 4393.

Since an attempt is being made to earn course credit toward a degree, it is expected that a student will acquire new knowledge or develop new skills comparable in scope to a traditional class and will be required to document these accomplishments. However, it is not required that the type of all the acquired knowledge or the type of all the skills developed be exclusively related to math, science, or engineering as long as they possess a substantial relevance to a career in Civil Engineering. For example, it would be extremely useful to use this opportunity to acquire knowledge of the business aspects of a consulting firm or to develop skill in negotiation.

Before enrolling in this course, a student must submit a proposal. The proposal should outline the specific objectives of the internship (new knowledge and skills) and the methods for obtaining the objectives (engineering projects and other activities in the internship). The proposal must be approved by the UTA CE Department. The sponsoring organization must approve the proposal and must commit to review and verify (or not) the reports submitted by the student. The review and verification must be done by a registered professional engineer. If the student is working for the sponsor before the start of the internship, the course requirements will not be satisfied by a continuation of the same activities at the same level of responsibility. In every case, it is expected that the duties of the student will be, at least, comparable to those of a recent Civil Engineering graduate.

It is expected that the student will spend approximately 180 hours, uniformly spread over the semester, in activities related to the internship. (180 hours is the time expected in a three semester credit hour class; three hours in class plus nine hours outside of class for 15 weeks.) A significant part of this should be spent acquiring new knowledge and developing and refining skills. A contemporaneous, online activity log must be kept to document the activities that acquire knowledge and develop skill. The activity log must be available for inspection at any time by the course instructor and must be up to date. The student will submit a progress report approximately halfway through the semester and a final report during final review week. The format and contents of the proposal and reports will be based on the intent of the Supplementary Experience Record used to document experience when applying for a professional engineering license.

The grade in the course will be based on the timely submission and the quality of the activity log, the progress report, and the final report. Because of the wide variance of the activities in actual internships, the internship itself will have a minimal effect on the course grade. Normally, the expected course grade awarded will be either P (pass) or F (fail). A grade of P is not included in GPA calculations; a grade of F is included in GPA calculations. The grade reporting mechanism allows the instructor to award letter grades as well. In extreme cases, the instructor may choose to exercise this option.

Submission of Deliverables

Each student expressing a desire to enroll in CE 4393 – Industrial Internship will be assigned a separate folder on a UTA network drive. The student must submit all deliverables to this folder as directed. The name of the assigned folder is \\iridium\classes\ce4393\netid, where netid is the student's UTA assigned computer access name. It is recommended that this folder be mapped to the drive letter V: The assigned, mapped folder is referred to as the V: drive in this document.

It is possible to map a UTA network folder from a computer not contained in the UTA domain. To do this, first establish a VPN (virtual private network) then map the folder. Instructions for establishing a VPN are given at <http://www.uta.edu/oit/cs/software/vpn/pc.php#students>. Instructions for mapping the folder are given at <http://www.uta.edu/oit/cs/files/pc.php>.

The deliverables should be submitted as Microsoft Word documents (docx).

The statements provided by the internship sponsor should be emailed to the course administrator.

General Form of the Proposal, the Activity Log, and the Reports

The form of the proposal, the activity log, and the reports are largely based on and sometimes verbatim reproductions of the "Instructions and Example of a Supplementary Experience Record" (SER) on the website of the Texas Board of Professional Engineers (TBPE). The SER is one of the required documents submitted in an application for professional licensure. Refer to this document for additional guidance. (<https://engineers.texas.gov/downloads/serinfo.pdf>)

The proposal, the activity log, and the reports are to be written in the first person, describing in active engineering verbs the engineering work that you specifically designed, calculated, evaluated, analyzed, etc. Other accomplishments should be described in a similar manner. This is based on the Supplementary Experience Record (SER) of the TBPE. The emphasis in the activity log and the reports should be on what you learned and what skills you developed. A description of the projects involved should be included only to the extent that it supports this.

Proposal

A proposal, describing the internship, must be submitted for approval by Civil Engineering Department at least two weeks prior to the beginning of the semester when CE 4393 will be attempted. The proposal should include the objectives of the internship and, to the extent possible, how the objectives will be accomplished. The objectives should be the acquisition of new knowledge and skills and the improvement of existing skills. (I will learn how to ... by ...)

The proposal must be supported by your supervisor. The supervisor should email the course instructor directly with a statement such as: "I have reviewed the proposal for the UTA class CE 4393 submitted by J. R. Student. The student should be able to acquire the new knowledge and to develop or improve the skills by completing the tasks as set forth in this document. I will review and verify the two reports submitted by the student to satisfy the requirements of this course."

Activity Log

As an employee, it is critical that you document your work in such a way that you can summarize it for your supervisor and other people evaluating your work, including the state licensing board. A student enrolled in CE 4393 – Industrial Internship must maintain a contemporaneous, detailed log of activities related to his internship. Although an activity log is more informal than a report, you should use sufficient care to make it easy for a reviewer to understand.

As you go about your weekly tasks, you should keep the log which includes, as appropriate:

- the starting and ending times of each task(s) on which you work
- the name of the task supervisor
- the names of the other persons with which you personally worked who can serve as a reference to substantiate your experience
- a description of or an identifier for the task
- an identifier for the project
- the significance of the task within the scope of the project
- most importantly, the engineering activities that you personally performed and your other accomplishments that satisfy the stated objectives of this internship.

This information will be transferred from your log into your progress report and your final report. **Tasks and accomplishments that are not included in an activity log may not be included in either report.**

The log must be kept on the V: drive in a Microsoft Word file named ActivityLog.docx. An empty log file will be placed on the V: drive to illustrate the required format. Each page will have a header consisting of your name, your main supervisor's name, and the company name of your employer. Each page in the log will correspond to one day in which you perform internship work. The date will be placed at the top of the page (eg. September 19, 2016).

Activities will be logged in a table with two columns. Each row (entry) in the table will correspond to a separate task. The left column may contain the name of the task supervisor, if different from your main supervisor. It will contain the start time of the task, the end time of the task and the total time spent on the task (task time) during this interval. It may contain other specified information.

The right column will contain a description of the task. The right column should also contain important information that is not specifically assigned to the left column. **In particular, include descriptions of the knowledge you are acquiring and skills you are developing and how they are related to a career in Civil Engineering.**

What comprises a task is somewhat flexible. The work items in a task should be related; for example, one work item creates what is needed for the next work item. A task should take on the order of an hour. Here, "on the order of" means that, while five minutes is usually too short for a task and eight hours is too long, fifteen minutes or four hours may be appropriate. Be consistent over the duration of the internship with what set of work items is included in a task. It is left to you and your employer to divide your work into tasks in a way that makes sense in your internship.

Use a coding system to avoid entering the same task description repeatedly. The first entry containing a particular task for a particular project should contain sufficient description of the task and its significance within the project. At the end of the description, define codes that succinctly describes the project and task. Enclose the code definition in curly brackets {projectcode} and {taskcode}. There should be a "projectcode" for each project and a "taskcode" for each major task. The codes should be mnemonic and taskcodes should be repeated from project to project, if appropriate.

In subsequent entries for this task on this project, the codes can be used in place of a complete description. Enclose this use of the codes in square brackets [projectcode/taskcode].

Tasks should be entered in the log by the end of the day they are accomplished. If an entry is made on a subsequent day, include the word Entered and the date at the bottom of the left column.

The text in an entry may not be modified after the day the entry is created. If a correction is necessary, strikethrough (~~error~~) the part of the entry that is incorrect in the original entry. Create a new entry for the corrections immediately below the original entry. In the new entry, include the word Correction and the date in the left column. However, original description codes, {projectcode} or {taskcode}, may be added to an entry at any time.

Progress Report

The Progress Report will be due on the last class day of the eighth week in a fifteen week semester and the last class day of the sixth week in an eleven week semester. In recent semester, the last class day in a fall semester is on Wednesday, the last class day in a spring semester is on Friday, and the last class day in a summer semester is on Thursday.

The Progress Report should summarize the student's accomplishments in the internship up to this point.

If the student's accomplishments in the internship will differ in a substantial way from the proposal, the differences should be noted and a brief explanation given for the necessity of the change.

The Progress Report must be verified by your supervisor. The supervisor should email the course instructor directly with a statement such as: "I have reviewed the Progress Report for the UTA class CE 4393 submitted by J. R. Student. To the best of my knowledge, this student has acquired the knowledge, developed the skills, and completed the tasks as set forth in this document."

Final Report

The Final Report will be due the last class day of the semester.

The Final Report should provide a final summary of the student's accomplishments in the internship. Differences between the actual accomplishments and the proposed accomplishments should be noted.

The Final Report must be verified by your supervisor. The supervisor should email the course instructor directly with a statement such as: "I have reviewed the Progress Report for the UTA class CE 4393 submitted by J. R. Student. To the best of my knowledge, this student has acquired the knowledge, developed the skills, and completed the tasks as set forth in this document."