



Çankaya University

Software Engineering Department

SUMMER INTERNSHIP GUIDELINE

I. Summer Internship in Software Engineering Curriculum

Internship is a period an engineering student spends working and gaining practical experience in an industry or research institute. The purpose of summer internship courses in the Faculty of Engineering departments is to give students a chance to test their theoretical knowledge, skills and abilities earned throughout their studies in a relevant industrial setting.

Given the fast changing nature of the field, it is even further important for computer engineers to understand and observe skillsets, technologies and knowledge used by the practitioners of the field. For this reason, SENG 200 and SENG 300 courses are important components of students' education.

Intended Objectives of Summer Internships are:

- i) Observe and recognize the organizational structure of enterprises, how they work and the importance of this structure.
- ii) Get acquainted with the working environments of Software Engineers to be able to compare and evaluate different job postings and career opportunities.
- iii) Observe the responsibilities and roles of information technology professionals and understand the social contracts of an employee.
- iv) Observe and recognize methodologies, procedures and work flow employed, such as software development methodologies.
- v) Practice the theoretical knowledge acquired in the Software Engineering program.
- vi) Observe and learn what skills, theoretical knowledge and technologies are essential or desirable for own career objectives.

Two courses namely SENG 200 and SENG 300 are designed and offered in order to guide the student to achieve the aforementioned objectives.

SENG 200 – Students should perform their first internship in the summer of their second year. Typically students in their 4th semester should follow the internship program announced in the spring semester. SENG 200 can only be performed in the summers following the 4th semester of the student enrolled in the program. This internship is focused more on the observational objectives. A successful student should be able to observe, deduct and document how an information technology company or department functions. Students' report should present both insightful and detailed analysis of the internship.

SENG 300 – Following a successful summer internship in SENG 200, a student should perform the second internship course SENG 300. Two internships cannot be performed in the same summer. Thus, SENG 300 can at earliest be performed in the summer following the 6th semester of the student. Typically a student performing SENG 300 is expected to graduate in the preceding year, it is important for the student to choose an institute that complies with the career objectives of the student. A successful SENG 300 internee is expected to gain experience by performing tasks and sub-projects assigned by the company. The internee should be able to analyze, criticize and document the experience gained. Only course requirement for SENG 300 mandated to students is SENG 200.

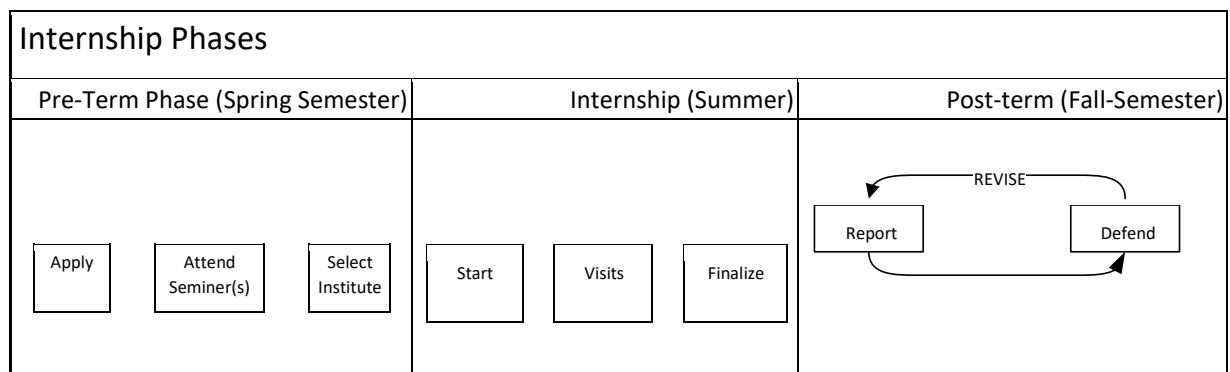
2. Course Requirements

- **When:** Summer after the last final exam of the student in spring term. If the student will participate in summer school, the internship should be planned for a period that

does not overlap with the summer school, for example following the last final exam of summer school before the first day of the following fall semester.

- **Duration:** At least 20 consecutive working days, where a working day must be a weekday and should have 8 hour work.
 - Nationwide Vacation days in the period of the internship are not taken into account in the fulfillment of the 20 consecutive work days.
- **Where:** A company that meets the requirements defined in the following section and is in the approved companies list announced in the internship web site.
 - A student is not allowed to intern in the same department of a company more than once, even if the student has previously failed the internship.
 - Students are not allowed to intern in an institute where a relative of the student is in a managerial position.
- Students that have fulfilled all the requirements of the computer engineering program and are about to graduate should refer to the internship regulations and notify the internship coordinators about their situation.

3. Phases of the Internship



Even though the internship actually takes place in the summer, the complete load should be considered in three phases starting in the spring semester prior to the internship and ends in the fall semester following the internship.

Phase I: Pre-Term

Student plans an internship in coordination with the internship coordinator.

Attend Seminar(s): In the beginning of the spring semester the department announces a seminar that will explain and guide students in their internship experience. Students planning to intern in the following summer should attend the seminar(s), and should enroll to the course.

Plan: Each student should find and select an institute to perform their internship. A student should devise their personal objectives for the internship considering their career goals. Students are encouraged to get advice from department members while planning their internship.

Insurance: University will insure the student for the internship period. Student should email the “Internee Information Form” to the Department Internship coordinator until due date. Internships without insurance will not be accepted by the department and the student will be regarded as Unsatisfactory.

Phase 2: Internship

Start: At the start of the internship, students should email the “Start of Internship Form” to the internship coordinator, with their internship supervisor’s contact information. An intern failing to report this information will be considered as unsatisfactory.

Work: Interns are expected to comply with the sponsor institutes rules and customs. Students are responsible from observing and analyzing the organization. Also they are expected to perform tasks and sub-projects assigned to them. Students should log their work in their internship journals and get their supervisor to sign each entry. Students are responsible from gaining experiences that will satisfy the performance evaluation criteria described in Section 6.

Visits: Faculty from the software engineering department may visit or phone the student at any time during the internship. The faculty may choose to interview with the intern and/or supervisor in order to get early feedback from both parties. Intern is responsible from being available in such inspections and providing accurate contact information for the supervisor. If the intern or the supervisor cannot be contacted, the intern will be considered unsatisfactory.

Attendance: Interns failing to attend to more than two work-days will fail the internship. In case of emergencies and illness, student must notify the software engineering department with official documents. These work-days with a legal excuse will be conducted at the end of the planned internship. If this is not possible the internship considered as unsatisfactory.

Take notes: Interns are strongly encouraged to take notes of their observations, analysis and criticism during their internship as these notes will be useful while writing the report.

Institute Evaluation: Interns are responsible for making sure that their supervisors will fill the “Internship evaluation form” and seal it in an envelope. The sealed envelopes should be sent to the Software Engineering department or delivered to the intern.

Phase 3: Post-Term

Write: Using the notes and journal logs taken in the internship, students are expected to write a report presenting their experiences, observations, analysis and comments about their internship. The content and the format of the report is outlined in the following sections.

Submit: First, the softcopy of internship report is submitted. This is first checked for plagiarism, if the similarity to internet resources is too much (more than 50 percent) the report is directly rejected and student fails the internship. If the report does not confirm with the writing guidelines and templates provided in the following sections and internship website, the report is not accepted and a revision is requested. Student should prepare a cover letter describing their changes and how they covered the revision requests. If the revised report fails again, it is rejected and student gets an unsatisfactory grade.

Hardcopy of the Internship report, sealed evaluation form filled by the internship institution, Intern self-evaluation questionnaire, “Report Evaluation Form” with the student information

type-written should be submitted to the internship coordinator before the end of 3rd week of fall semester following the internship.

Department Evaluation: Each report and internship is evaluated according to the criteria given in the following sections. A faculty member will examine the report, and may choose to interview with the intern. The faculty member may request revision of the report. Requested revisions are made and the report is re-submitted and re-evaluated. If the revisions are not sufficient the report is rejected.

Final Grade: Depending on the department evaluation the student can get a satisfactory (S) or unsatisfactory (U) grade from the internship. Re-evaluation requests can be submitted to the department secretary following this period.

4. Institute Selection Criteria for Summer Internship

Interns should consider the following when selecting the institute for summer internship.

Required:

- The institute must work on software engineering applications and/or systems such as software design/development/testing/analysis.
- The supervisor of the summer intern must be an engineer and have experience in software engineering problems.

5. Writing Guidelines

The guidelines are classified into two groups:

1. Style and format,
2. Content and organization.

Style and format

Please strictly follow the formatting guidelines and be consistent throughout your document.

Listed below are some style-related guidelines.

- Number each figure/table, add a meaningful caption to each figure/table, and **refer to the figures/tables inside the text** using their figure/table numbers.
- List references (to papers, documents, manuals, web pages, etc.) at the end of your report (after the conclusion and before the appendix) in a separate section entitled *References*.
- **Give citations to each of these references inside the text in a standard way.**
- **Spell-check** your report.
- Number the pages.
- Bind your report.
- Do not include source code in your document unless it is very important. If you decide to put source code, consider putting it into the appendix section.
- Read and edit your report several times before you submit it.

Please use the word template provided in the internship web site.

Content and organization

Sections and subsections

Below are some guidelines describing what sections are expected in a summer internship report and what each section should include.

Abstract: Start your report with a brief abstract that describes in a few sentences where you have done your summer internship, what you have done, and what you have learned. (no more than 150 words)

Introduction: Have an introductory section that will make a smooth beginning to the document. In the introduction section include the following:

- The name of the company and department where you have done your summer internship, the main focus area of the company, and your motivation for choosing this company as the place for your summer internship.
- Brief summary of the work you have done, the motivation behind it, and the significance of the work that you have done in the overall project.
- Explanation of the organization of the rest of the report.

Company information: Have a section providing detailed information about the company and department where you did your internship, its hardware/software systems and resources, its focus and project area, its organization, etc. The name, address, telephone number, email address, and **information about the education of your supervisor must** be given (including the name of the university and department from which he/she graduated, and the year of graduation). Additionally, you **must** list the names of your team members and their backgrounds.

Work Done: The number of sections in this part, their titles, and their contents depend on the work that you have done and the information you would like to provide. However this part should be at least 1000 words. This part should explain the work you have done in your internship and should be consistent with your journals.

- It should include at least the following:
 - Information about the main project, if the work you have done is part of such a project.
 - The significance of the work you have done.
 - The motivation behind the particular work that you have done and why it is required.
 - Detailed description of the work done, including for example: - The algorithms/pseudo-code developed.
 - Hardware/software environment used.
 - Software tools used.
 - Design methods used and learned.
 - Testing methods and tools used and learned.
 - Project management methods and processes followed or observed.
 - Any engineering standards that are followed or observed.
 - Design, development, documentation and testing participated in or observed.
 - Any training received, including seminars attended.
 - Any configuration and/or maintenance tasks performed.

- Detailed description of your own contribution, clearly identifying the distinctions from others' work.

Conclusion: Have a conclusion section where you summarize the work you have done. Clearly re-state your contribution, what you have learned, experienced and acquired. Be specific in relating these to what you have learned at Çankaya University.

Other Factors

- Use correct English syntax and vocabulary. Pay attention to sentence structure, verb tense, plurality endings, articles, spelling, capitalization of proper nouns, etc.
- Be consistent with the use of your abbreviations and state their long form when they are used for the first time.
- Do not copy and paste information from other documents. Always write in your own words.
- If you need to include information from other sources, properly quote or paraphrase, and make sure to give citations.
- Be correct, consistent, and complete.

6. Criteria for Evaluation of Summer Internship and Report

Soft copy and Hard copy of internship reports should be submitted within the first 3 weeks of the fall semester following the summer internship. Reports failing to suffice the following criteria will not be accepted. Students are responsible from preparing a submission satisfying the following criteria:

- You should provide the education and background of your Internship Supervisor in your report.
- All questions in Intern self-evaluation questionnaire should be answered and submitted as a separate file along with the internship report.
- Your report should be prepared using the word template provided in the internship web site. Font sizes and paragraph settings should respect the rules described in the template.
- You should only include images and references that are used in your text.
- Your report should be original. All reports are checked for plagiarism, any attempt to cheat will result in an immediate "Unsatisfactory" grade.
- You should use the cover provided with the word template.
- You should have written at least 1000 words in "Work Done" section.
- All the items in your Internship Journal should be accounted for in your report.
- Your report does not contain any spelling or grammar errors.
- Internship Journal should be enveloped, signed, stamped and sealed by the company.
- Name, Surname, Company name and internship course parts of the Internship Grade Form should be filled and submitted as hard-copy

Guideline for the Grade Form

Part A

- The Required Criteria given in Part-A (about the organization doing computer engineering work, and the supervisor having computer engineer problem area experience) will be checked. If these criteria are not met, the summer internship is unsuccessful (grade is U) and must be repeated. Students are responsible from providing this information in both internship report and internship questionnaire.
- The average of the grades given in the “Internship Evaluation Form” by the supervisor at the summer internship company must be on average 7.0 or higher. If this criteria is not met, the internship is unsuccessful (grade is U) and must be repeated.

Part B

- The Summer Internship Report must be of a high standard in terms of its content, organization, style and language. If the Performance Criteria grade for the report is not 7 or higher, the report will be returned to the student for revision once, and if the report still does not satisfy the requirements it will be rejected. Please provide information about what needs to be changed as comments on the report.

Part C

- Give a score between 0-10 to the performance criteria given below by marking the Performance Criteria Evaluation Form. Students are responsible from noting where in their report they provide information about the relevant criteria in their internship questionnaires.
- If the sum of performance criteria scores is below 60 student fails the internship and will get an “Unsatisfactory” grade.

The Performance Criteria are:

1. Demonstrates the ability to apply mathematics, science and engineering subjects to model and solve engineering problems.
2. Demonstrates the ability to identify, formulate and solve complex engineering problems.
3. Demonstrates the ability to select and apply appropriate analysis and modelling methods.
4. Have built a complex system, process, device or a product.
5. Have used information technologies effectively.
6. Demonstrated ability to select, devise or use modern techniques and tools.
7. Have conducted experiments, gathered data and interpreted results investigating an engineering problem.
8. Demonstrated good communication and presentation skills both orally and in writing.
9. Have independently researched and learned by educating him/herself.
10. Recognized professional and ethical responsibilities.
11. Observed and participated in business life practices such as project management, risk management and change management.
12. Demonstrated observations and knowledge about contemporary issues, global and societal effects of engineering practices.