

**ÇANKAYA UNIVERSITY**  
**FACULTY OF ENGINEERING**  
**MECHATRONICS ENGINEERING DEPARTMENT**

**SUMMER PRACTICE REPORT WRITING**  
**GUIDELINES**

## TABLE OF CONTENTS

I. SUMMER PRACTICE REPORT WRITING GUIDELINES.....	3
I.1. Report Style.....	3
I. 2. Referencing .....	4
I.3. Content of the Report.....	4
1.4. Submission and Evaluation of the Reports.....	5
II. ANALYSIS SECTION OF SUMMER PRACTICE REPORTS .....	5
II.1. Analysis Section of ME 200 Report .....	5
II.2. Analysis Section of ME 300 Report .....	6

## TABLE OF FIGURES

Figure 1 Mechatronics Engineering Department logo .....	2
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## TABLE OF TABLES

Table 1. Some coarse metric threads .....	1
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I hereby declare that all information in this report has been obtained and presented in accordance with academic rules and ethical conduct and the work I am submitting in this assignment, except where I have indicated, is my own work.

Your name and surname

Your signature

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## I. SUMMER PRACTICE REPORT WRITING GUIDELINES

The MECE 200 and MECE 300 Summer Practice Reports will be prepared in accordance with the general information provided by the <http://mece.cankaya.edu.tr/staj.html> and the [http://muhf.cankaya.edu.tr/~mmf/mmf\\_yeni/uploads/files/MF\\_StajYonergesi.pdf](http://muhf.cankaya.edu.tr/~mmf/mmf_yeni/uploads/files/MF_StajYonergesi.pdf) web addresses as well as the departmental guidelines provided in this complementary document. **You should use this document as the template for your report.**

### I.1. Report Style

The reports must be written in English and free of spelling, typing or grammatical errors. The reports are graded considering style, format, organization of the report as well as the technical information provided.

The report can be prepared using any standard text editor. The reports should be written using A4 size paper with 3 cm left, 2.5 cm top, 2.5 cm bottom, and 2.5 cm right side margins. For the body of the report, Times New Roman should be used with a font size of 12 and 1.5 line spacing. Each chapter should start on a new page. A 14 font size-Times New Roman bold typeface is used for one of the chapter headings, other chapter headings should have the same style. Each figure or table presented in the report should be referred in the text, preferably just before the figure or the table. In addition, each figure and table should have a proper descriptive caption (examples are Table 1 and Figure 1). If a figure or a table is not of ultimate importance, or it is inconvenient to present the figure or table inside the text (for instance due to its physical size), it may be considered to place the entity in the appendix. If appendices are used, they should be referred as well in the text. Students may use this document as a style template for their summer practice reports.

Table 1. Some coarse metric threads

Size - Nominal Diameter (mm)	Pitch (mm)	Clearance Drill (mm)	Tap Drill (mm)
M 1.60	0.35	1.80	1.25
M 2.00	0.40	2.40	1.60
M 2.50	0.45	2.90	2.00



Figure 1. Mechatronics Engineering Department logo

## **I.2. Referencing**

In the summer practice report, present the references as a separate list at the end of the main body. Use citation style throughout the report. For instance:

[1] Multiphysics Modeling and Simulation Software COMSOL, Last access date: 20 May 2012.

[2][http://mece.cankaya.edu.tr/Underg\\_Courses.htm](http://mece.cankaya.edu.tr/Underg_Courses.htm):Mechatronics Engineering Department offers 4-year undergraduate program.

## **I.3. Content of the Reports**

A technical language should be used in the summer practice report instead of a literary language. The use of active clauses with subject pronouns should be avoided, unless it is absolutely necessary. The report should be organized as follows.

1. Title Page
2. Table of Contents (with the page numbers included, use heading)
3. Table of Figures (with the page numbers included, use caption)
4. Statement of Plagiarism
5. Introduction
6. Analysis (details of this item are presented in the next chapter of this document)
7. Conclusion
8. References
9. Appendices (if required)

Excluding the title page, the pages up to “Introduction” should be numbered in Roman numerals as i, ii, iii etc. Starting from the “Introduction” all remaining pages should be

numbered in Arabic numerals starting from 1. All page numbers should be centered at the footer of the page.

#### **I.4. Submission and Evaluation of the Reports**

After completion of the report, electronic copy of the report should be uploaded first to relevant directories in MECE 200/300 page on [webonline.cankaya.edu.tr](http://webonline.cankaya.edu.tr) as pdf and MS Word files. The files should not be zipped or password protected. File names should include information about the student and the code of the summer practice such as 201115001\_MECE200.pdf and 201115001\_MECE200.docx. Also electronic copies should be given in a CD with the report. In addition to the electronic copies, printed and filed copies of the reports should be submitted to summer practice coordinator before the deadlines announced by the Department.

After electronic copies are uploaded, the reports are checked against plagiarism using plagiarism checking tools. If an unreferenced or incorrectly referenced match is detected, the report will not be evaluated and the student will directly get U (i.e., unsatisfactory from the summer practice). Otherwise, the report is directed to the evaluator by the summer practice coordinator. The evaluator evaluates and grades the summer practice report by filling in the *Grading Form*. Here, the evaluator considers the format and content of the report, and evaluation of the practice supervisor. If the student satisfies the requirements noted in the Grading Form, he/she will get S (satisfactory). Otherwise, he/she will get U. However, the evaluator may consider to return and unsatisfactory report back to the student for revision. If the report is still unsatisfactory, it will not be returned back to the students for a second revision. Final grades decided by the evaluators are sent to the summer practice coordinator. Grades are announced by the coordinator on [the web site of the department](#).

## **II. ANALYSIS SECTION OF SUMMER PRACTICE REPORTS**

### **II.1. Analysis Section of MECE 200 Report**

MECE 200-Summer Practice I aims to make the students observe the applications of the knowledge gained in first four semesters in a company or plant. Therefore, the practice should focus on the production in the company, manufacturing processes and



manufacturing support systems in the company. Accordingly, the “Analysis” chapter of the report should include the followings:

1. Information about the company (Full name and address of the company, history, main activities, main products, organizational structure and duties of each section/department, duties of the mechanical engineers, employment data including number of white- and blue-collar personnel)
2. Description of the products
3. Machine and machine tools used in manufacturing (number and technical properties). Technical details will be given only for main machine groups (At least 5 groups). Machine tool representing the group will be explained in detail. Structure, layout, working principles, and technical specifications should be explained.
4. Production type (job shop, flow line, cellular, etc.) and production quantity
5. Describe Computer Aided Drawing / Design/ Engineering /Manufacturing software used in the company with brief explanations and related hardware (workstations, CNC machines, etc). Describe Computer usage in Assembly and Management (production, inventory, cost, personal, configuration, revision).
6. Automation in the company (if not existing, possible ways of automation should be discussed)
7. Supporting facilities in the company (air conditioning, waste treatment, etc.)
8. Material handling and storage (material handling devices such as forklifts, cranes, conveyors, shelves, racks, automated vehicles etc.) in the company. Objectives of the handling devices in the facility.
9. Quality management plan, quality assurance and quality control system, and standards and certificates of the company. Explanation of the quality management system for a selected part (product).
10. Maintenance of the machines/systems in the company (Periodical maintenance and repair principles, basics and schedules of the company for the whole systems available in the company).
11. Occupational health and safety practices in the company
12. General assessment of the summer practice, benefits, special situations, observed problems, identified and proposed solutions, and recommendations for the future, the major occupational benefits obtained.

13. Engineering drawings of two selected major parts/products manufactured in the company. All the technical drawings (detailed/working) will be drawn in 3D and 2D by the student using Autocad. The drawing printout must be given in appendix and also the source file (.dwg) shall be given with the CD.
14. Detailed description of the manufacturing processes involved in manufacturing for both parts.

## **II.2. Analysis Section of ME 300 Report**

In MECE 300 Summer Practice II students are expected to gather information about management of the production system, and observe the approaches to real-life problems. Support systems in the production environment, including managerial and design functions should also be analyzed. In addition, the students are expected to identify a mechatronics engineering problem in the company, analyze the problem and propose a solution for the problem as a part of the summer practice. Accordingly, the “Analysis” chapter of the report should include the followings:

1. Information about the company (Full name and address of the company, history, main activities, main products, organizational structure and duties of each section/department, duties of the mechanical engineers, employment data including number of white- and blue-collar personnel).
2. Description of the products.
3. Production type (job shop, flow line, cellular etc.) and production quantity.
4. Machine and machine tools used in manufacturing (number and technical properties). Technical details will be given only for main machine groups (At least 5 groups). Machine tool representing the group will be explained in detail. Structure, layout, working principles, and technical specifications should be explained.
5. Product design/development, process planning, research and development (R&D) activities in the company (if not applicable, discuss the reasons and effects).
6. Computer usage in manufacturing and manufacturing support systems (software and hardware).
7. Automation in the company (if not existing, possible ways of automation should be discussed).
8. Supporting facilities in the company (air conditioning, waste treatment etc.).

9. Location and layout of the company (reasons affecting the selection of the current location, block layout of the plant and detail layout of a section/department, reasons affecting the layout).
10. Quality assurance and control systems in the company.
11. Maintenance of the machines/systems in the company (calibration tools, maintenance periods, policies in maintenance should be discussed in detail).
12. Occupational health and safety practices in the company.
13. Detailed engineering analyses of two products (assemblies or subassemblies) manufactured in the company.
  - a. Engineering drawings of the two products (All the technical drawings will be drawn in 3D and 2D by the student using Autocad. The drawing printouts must be given in appendix and also the source file (.dwg) shall be given with the CD).
  - b. Process flow of the two products, from raw material to finished good (process flow diagram), and any possible improvements in the processes or the flow.
  - c. Cost analysis of the two products.
14. Identification and analysis of a mechatronics/mechanical/electronics/control engineering problem(s) in the company. The problem and the proposed solution must be reported in detail. There should be a special focus on this issue.