KARADENIZ TECHNICAL UNIVERSITY
OF FACULTY OF TECHNOLOGY
INTERNSHIP DIRECTIVE

This directive has been prepared to regulate the internship principles for students of the KTU Of Faculty of Technology. The directive has two parts. The first part contains the general articles prescribed for all departments; the second part contains the special provisions for the departments.

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A – PART ONE

1. GENERAL PROVISIONS:

Article 1.1. In addition to the course credits required to earn a bachelor's degree, students of the KTU Of Faculty of Technology must complete an internship (practical work) within the framework of the rules of the Karadeniz Technical University Of Faculty of Technology Internship Directive, in a way that contributes to their engineering education and increases their practical knowledge and skills.

Article 1.2. The conduct and evaluation of the internship are regulated by this directive.

Article 1.3. Matters not covered by this directive are decided by the Department Internship Committee.

Article 1.4. This directive enters into force on the date it is approved by the relevant Boards.
Article 1.5. This directive is executed by the Karadeniz Technical University Of Faculty of Technology Dean's Office.

2. INTERNSHIP DURATION AND PERIODS

Article 2.1. The total internship (practical work) duration required for a student's graduation is sixty (60) working days. Students may do an internship of at least fifteen (15) and at most forty (40) working days without a break in one internship period (a one-year span covering two semesters).

Article 2.2. An internship of fewer than 15 working days cannot be done at one workplace. A working day requires at least eight (8) hours of daytime physical or mental work. A student may work at most six days a week.

Article 2.3. Internships may be done during the summer break and/or, if 20 working days fit, during the intersemester break (periods outside the course and exam periods of the academic calendar). No internship can be done on official holidays. However, in private institutions or organizations, internships may also be done on Saturdays that are not official holidays.

Article 2.4. Students who successfully complete all their courses must complete their internships within six months from the date of their last exams, provided they register.

3. INTERNSHIP SITE

Article 3.1. The suitability of the public or private sector organizations where internships will be done is under the authority of the Departments' Internship Committees.

Article 3.2. The student must do the internship, in Türkiye or abroad, at an institution/ organization that operates in a field related to the department and employs at least one engineer in the fields specified in the departments' special provisions.

Article 3.3. The student chooses the internship site from the internship sites announced by the Department or from public/private institutions or organizations, in Türkiye or abroad, operating in the relevant engineering field that the student has secured through their own efforts.

Article 3.4. Internship sites secured from public or private organizations through the Department's initiative are allocated by ranking students according to their academic grade average, with priority given to upper-year students.

Article 3.5. Students who wish to do an internship outside Türkiye may do so through IAESTE (The International Association for the Exchange of the Students for Technical Experience) (http://www.iaeste.itu.edu.tr/tr/index.htm). Students may also do internships in foreign countries outside Türkiye at companies they have contacted on their own, with the written permission of the Department Internship Committee.

4. STARTING THE INTERNSHIP

Article 4.1. To start their internships, students must have completed at least four semesters of education in their departments.

Article 4.2. To start the internship, the student obtains from the student affairs office the photographed and dry-stamped "Practical Work (Internship) Record Form" and the "Internship Notebook". The student gives this form to the relevant internship site. The internship file consists of one cover, a work program and A4-size pages describing the work done.

Article 4.3. At least two (2) weeks before the end of classes, the student applies to the Office of the Department Internship Committee Chair with an approved document, obtained from the institution where they wish to intern, on letterhead or stamped, dated, stating that the internship request has been accepted and containing the name of the internship and the company's details. The Internship Committee examines the student's application, requesting detailed information about the internship site if necessary, and decides whether the internship can be done at that institution. Students may start their internships after receiving approval from the internship committee. Internships started without the approval of the department internship committee are not valid.

5. CONDUCT OF THE INTERNSHIP

Article 5.1. Actual attendance at internships is mandatory.

Article 5.2. The student must comply with the statutes, regulations, directives and working rules of the workplace where they intern. During the internship, the student must do and take part in the work assigned by the officials responsible for the internship subject.
Article 5.3. Students on internship may not engage in strikes, demonstrations, marches or work slowdowns.

Article 5.4. A student who has started an internship cannot change the internship site without informing and obtaining approval from the internship committee chair; if changed, the internship done is considered invalid.

6. PREPARATION AND SUBMISSION OF INTERNSHIP FILES

Article 6.1. The language of the internship notebook prepared for an internship done in Türkiye is Turkish. For internships done abroad, internship files may be prepared in Turkish or English. Files written in a language other than these must be translated by the student with a notarized translation.

Article 6.2. A separate internship file must be prepared for each internship. A separate internship file must also be prepared for internships previously left incomplete or partially done.

Article 6.3. Internship files are submitted to the Office of the Department Internship Committee Chair each year at the time determined by the department internship committee. The internship of a student who does not submit the file on time is not accepted.
Article 6.4. The "Internship (Practical Work) Record Form" is filled in completely by the relevant engineer of the organization where the internship was done, containing information on the student's attendance, interest, success and other aspects, and is signed and sealed. In the internship record form, evaluation grades are given numerically out of 100 as 80-100 (excellent), 70-79 (good), 60-69 (fair) and 0-59 (unsuccessful). The internship record form is placed in a signed and sealed closed envelope and sent by registered mail to the relevant Department secretariats. Student Affairs, the Office of the Head of Department and the Internship Committee cannot in any way be held responsible for the loss or delay of said form in the mail.
Article 6.5. Internship record forms that are not in a signed, sealed and closed envelope, are incompletely filled in or have not reached the university are not evaluated, and the internship done is not accepted.

7. EVALUATION OF INTERNSHIPS

Article 7.1. The coordination of student internship affairs and the evaluation of internship work are carried out by the Department Internship Committee. The internship work evaluation document must bear the signatures of the internship committee chair and at least one member.

Article 7.2. The student's internship file is examined by the internship committee of the relevant department, taking into account the information it contains, its writing style, the internship record form from the workplace and the basic principles sought by the departments.

Article 7.3. Department Internship Committees may also use other faculty members of the department when examining and evaluating internship reports. Department Internship Committees may hold written/oral exams during the evaluation period and may inspect internship work on site. Internship results are evaluated as UNSUCCESSFUL or SUCCESSFUL, and if successful, the number of working days deemed valid is stated.

Article 7.4. An investigation is opened under the Regulation on Student Discipline of Higher Education Institutions against students who, as determined by the examination of internship reports, tamper with internship papers and documents or prepare and submit an internship report without having attended the internship site.

Article 7.5. Internship files that greatly resemble each other and give the impression of having been copied from another internship file (both of them), or an internship file largely containing information from books, are rejected entirely by the Department Internship Committee.

Article 7.6. Internship examination results are announced on the date set by the Department Internship Committee. For students who have to do their internship at any time of the year, examination results are announced within 4 weeks at the latest after the internship file is submitted.

Article 7.7. The internships of students in the Double Major Program (DMP) are evaluated separately by each department internship committee.

8. EXEMPTION

Article 8.1. For students who enrolled by horizontal transfer, internships accepted in their previous departments may be re-evaluated by the department internship committee if documented, and those found suitable may be accepted.

Article 8.2. For students who graduated from technical programs of Vocational Schools and enrolled by vertical transfer, internships done during their associate degree studies may be re-evaluated by the department internship committee if documented, and those found suitable may be accepted.

Article 8.3. Internships done during high school education by students who graduated from vocational high schools cannot be accepted.

9. GRADUATION

Article 9.1. Students whose total 60-day internship is approved by the Department Internship Committee earn the right to graduate if they also pass their other courses.

Article 9.2. For students entitled to do an internship outside the dates specified in the internship directive, the graduation date is the first Friday after the acceptance of their internship files.

B – PART TWO

Since this part contains the special provisions for each of the departments within the Of Faculty of Technology, the conditions prescribed for one department do not apply to the other departments.

PROVISIONS FOR THE DEPARTMENT OF CIVIL ENGINEERING

- Conditions to Be Met by Public or Private Host Organizations:

i. The organization where the internship will be done must operate in construction works (substructure or superstructure works). (No internships in plastering, painting, etc.).

ii. The organization must have at least one Civil Engineer responsible for the interns.

iii. The organization must carry out its activities in earthworks, foundation excavation, concrete works, reinforced concrete construction works, retaining walls, tunnels, road construction, sewerage and water supply works, offshore structures construction, dam construction, project preparation and implementation works, housing and factory construction, steel structures, etc.

iv. The organization providing the internship must undertake to employ the interns effectively.

- Internship Announcement and Briefing:

Each spring semester, the Office of the Internship Committee Chair holds a meeting, on a date announced in advance, for those who wish to do an internship, and informs students about starting and conducting the internship and filling in the internship notebook.

- Work to Be Done During the Internship:

i. Learning about the organization: Learning the organization's fields of activity, organizational structure, sections and duties. Inquiring what the workplace expects from a Civil Engineer during the internship. Examining the hierarchy among the workplace employees,

ii. Observing, examining and learning the work carried out by the organization,

iii. The construction machinery, measuring instruments, etc. used in the organization should be introduced and what work they are used for should be examined,

iv. Examining the quality control and testing laboratories in the organization, if any, and examining what kinds of tests are performed,

v. Examining the quality assurance system (if any)

- Arrangement and Approval of the Internship File:

The "Internship File" that interning students must prepare must be arranged in accordance with the following writing rules.

i. The report will be written in a technical writing font, by hand or with a computer printer, in 12-point height.

ii. The title of each section will be written in capital letters. In subheadings, if any, each word will begin with a capital letter.

iii. When explaining the topics, drawings and diagrams will be prepared in accordance with technical drawing rules where necessary.

iv. Each Figure and Table in the text will be numbered.

v. The page number will be written at the bottom center of every page except the cover page.

vi. The internship file will consist of the following sections.

1. Internship file cover page (outer cover)
2. Internship file inner cover (with photo and approved): must include the student's name surname, number, internship start and end dates, number of internship days, and the name surname, signature and approval of the workplace supervisor.
3. Table of contents page: In the places given weekly in the internship file, the type of work carried out each day will be written, and the pages containing detailed explanations of this work will be indicated.
4. Introduction: In this section, brief information will be given about the subject of the internship, the workplace name and its activities. The numbers and duties of engineers and technicians working at the workplace will be briefly discussed.
5. Work Done During the Internship: In this section, the work done in the tasks specified in the internship directive will be written in detail on a daily basis.
6. Conclusion section: At the end of the internship files, the knowledge and skills gained during the internship and the work done will be evaluated in summary, and opinions and thoughts will be written.

Every page of the internship file must be approved by a workplace supervisor with the title "Civil Engineer". The chamber registration number or diploma number of the civil engineer approving the internship file must be written.

- Submission and Evaluation of Internship Files:

- To allow the internships of students who complete their internships at the end of the internship period to be evaluated more effectively, the Office of the Internship Committee Chair will announce the recommended date for submitting the files at the beginning of the semester following the internship period.

The internship file is required to be submitted within the announced period.

- Internship files are evaluated by the internship committee. In this evaluation, scores are given taking into account the organization of the internship file, the introduction of the internship site, whether the work done during the internship is presented in the specified order, and whether the interns have a certain body of knowledge about the work done at the end of the internship.

- In the interview held with interns, the internship committee members score separately. Using the average scores given in the interview for each intern, the "internship file success score" is formed for the internship file. The internship of students who cannot obtain 60 points as a result of this evaluation is considered "Unsuccessful".

- The average of the grades given in the internship record form filled in by the internship institution is taken and a "record form success score" is calculated for each student. The internships of students whose record form success score is below 60 points are considered "Unsuccessful".
- In evaluating internship files, the average of the "internship file success score" and the "record form success score" is taken and the "internship success score" is calculated for each student.

- The average of the internship success scores of students interning in one internship period is taken, and the internships of students whose internship success score is above this average success score are considered "Successful" for that period. If the internship success score is lower than the average success score, the accepted number of days is determined by reducing the number of internship days by the ratio "internship success score/100". The resulting number of days is rounded to the nearest integer.

PROVISIONS FOR THE DEPARTMENT OF WOODWORKING INDUSTRIAL ENGINEERING

- Conditions to Be Met by Public or Private Host Organizations:

i. The organization where the internship will be done must be an industrial organization, either in Türkiye or abroad, operating in the forest products industry.

ii. The organization must primarily employ at least one "Forest Industry Engineer" or "Woodworking Industrial Engineer"; if none, an engineer or an architect.

iii. The organization providing the internship must undertake to employ the interns effectively.

iv. The organization must have the equipment with which the interns can learn and practice information related to their profession.

- Internship Announcement and Briefing:

Each spring semester, the Office of the Internship Committee Chair holds a meeting, on a date announced in advance, for those who wish to do an internship, and informs students about starting and conducting the internship and filling in the internship notebook.

- Work to Be Done During the Internship:

i. General introduction of the organization on matters such as founding date, company type, field of work, capacity, number and qualifications of employees. Inquiring during the internship what the organization expects from a Woodworking Industrial Engineer.

ii. Introduction of the machinery and equipment in the organization, examination of their technical specifications and intended uses.

iii. Examination and learning of the organization's location, general workflow and working conditions.

iv. Introduction of each department and examination of the workflow.

v. Examination of the organization's procurement and marketing policy.

vi. Research and examination of practices on topics such as productivity, performance improvement and current organization techniques (total quality management, ISO 9001, just-in-time production, etc.).

- Arrangement and Approval of the Internship File:

The "Internship File" that interning students must prepare must be arranged in accordance with the following writing rules.

i. The report will be written in a technical writing font, by hand or with a computer printer, in 12-point height.

ii. The title of each section will be written in capital letters. In subheadings, if any, each word will begin with a capital letter.

iii. When explaining the topics, drawings and diagrams will be prepared in accordance with technical drawing rules where necessary.

iv. Each Figure and Table in the text will be numbered.

v. The page number will be written at the bottom center of every page except the cover page.

vi. The internship file will consist of the following sections.

1. Internship file cover page (outer cover)

2. Internship file inner cover (with photo and approved): must include the student's name surname, number, internship start and end dates, number of internship days, and the name surname, signature and approval of the workplace supervisor.
3. Table of contents page: In the places given weekly in the internship file, the type of work carried out each day will be written, and the pages containing detailed explanations of this work will be indicated.
4. Introduction: In this section, brief information will be given about the subject of the internship, the workplace name and its activities. The numbers and duties of engineers and technicians working at the workplace will be briefly discussed.
5. Work Done During the Internship: In this section, the work done in the tasks specified in the internship directive will be written in detail on a daily basis.
6. Conclusion section: At the end of the internship files, the knowledge and skills gained during the internship and the work done will be evaluated in summary, and opinions and thoughts will be written.

- Every page of the internship file must be approved by a workplace supervisor with the title "Forest Industry Engineer" or "Woodworking Industrial Engineer", or if none, an engineer or architect. The chamber registration number or diploma number of the engineer or architect approving the internship file must be written.

- Submission and Evaluation of Internship Files:

- To allow the internships of students who complete their internships at the end of the internship period to be evaluated more effectively, the Office of the Internship Committee Chair will announce the recommended date for submitting the files at the beginning of the semester following the internship period.

The internship file is required to be submitted within the announced period.

- The internship committee examines the submitted internship files together with the internship record forms. During this examination, attention is paid to the following criteria:

a) The internship record form totals 50 points. These points

- Attendance grade X 0.20
- Work and effort grade X 0.075
- Completing work on time and fully grade X 0.075
- Behavior toward supervisor grade X 0.075
- Behavior toward workers and colleagues grade X 0.075

are calculated as follows.

b) The internship file is examined out of a total of 50 points. In this evaluation;

- Basic integrity of the internship file (5 points) (complete signatures, legible writing, conformity to general appearance requirements, etc.)
- Introduction of the factory where the internship was done (5 points)
- Introduction of the machinery and equipment used in the factory where the internship was done, explanation of what they are used for (5 points)
- Providing information on the organization's location, workflow diagram and working conditions (5 points)
- Introduction of the departments one by one, giving production and workflows (10 points)

- Stating the supply policy, marketing policy and how the market analysis of the manufactured products is done (5 points)
- Stating productivity, performance improvement and the current organizational techniques applied (5 points)
- Conclusion section (the student's views and thoughts about the enterprise where they interned, what the internship gave the student, suggestions about the internship, etc.) (5 points)
- Preparation of the files with the student's own original thoughts and sentences (5 points).

c) The score obtained from the internship record form must not be less than 30 out of 50. In addition, the total score resulting from the examination of the internship file must not be less than 30 points. Files that fail to reach these scores are considered "Unsuccessful".

d) Students whose internship files and internship record forms are found unsuccessful must defend their internships orally to the internship committee members on internship meeting days. After this defense, the student's internship duration is determined.

e) Files reproduced by photocopy or written with the same text and content, that is, identical to each other, are not examined.

PROVISIONS FOR THE DEPARTMENT OF SOFTWARE ENGINEERING

- Conditions Required of Public or Private Organizations Where Internships Will Be Done:

i. The organization where the internship will be done must employ at least one software engineer or computer engineer responsible for the interns.

ii. The organization must operate in the fields of computer software, computer hardware or computer sciences. Internships done in areas such as personal computer maintenance and repair are not accepted.

iii. The organization providing the internship must undertake to employ the interns effectively.

iv. Even if more than 40 working days of internship are done in the same department of an organization, at most 40 days of it are counted toward the internship.

v. The entire internship (60 working days) cannot be done at a single organization, even if it has different departments. The compulsory internship must be done at at least two different organizations.

- Internship Announcement and Briefing:

The Office of the Internship Committee Chair makes the necessary announcements about the internship in the relevant internship period and, if necessary, holds a meeting with intern candidates.

-Work to Be Done During the Internship:

i. Learning about the organization: Learning the organization's fields of activity, organizational structure, sections and duties. Inquiring during the internship what the organization expects from a software engineer. Examining the hierarchy among the workplace employees,

ii. Observing, examining and learning the work carried out by the organization,

iii. The computer systems used in the organization should be examined and their purposes of use and functions should be examined,

- Arrangement and Approval of the Internship File:

The "Internship File" that interning students must prepare must be arranged in accordance with the following writing rules.

i. The report font must be "Times New Roman", font style "Normal", font size "12". The paper used must be compatible with the pages in the internship file. Internship files prepared by hand are not accepted.

ii. Flow diagrams of the software must be given in the main sections and the code in the appendices. Appendices must be single-spaced, in font size 10.

iii. The font size in Figures and Tables must be between 8 and 10. All tables and figures must have captions and be numbered.

iv. On pages other than the cover pages, the page number will be centered in the footer section.

v. The internship file will consist of the following sections:

a. Internship file cover page (outer cover)
b. Internship file inner cover (with photo and approved): student's name surname, number, internship start and end dates, number of internship days, and the name surname, signature and approval of the workplace supervisor.
c. Table of contents page: In the places given weekly in the internship file, the type of work carried out each day will be written, and the pages containing detailed explanations of this work will be indicated.
d. Introduction: In this section, brief information will be given about the subject of the internship, the workplace name and its activities. The numbers and duties of engineers and technicians working at the workplace will be briefly discussed.
e. Work Done During the Internship: In this section, the work done in the tasks specified in the internship directive will be written in detail on a daily basis.
f. Conclusion section: At the end of the internship files, the knowledge and skills gained during the internship and the work done will be evaluated in summary, and opinions and thoughts will be written.
g. Appendices: Appendices related to the internship may be added, if any. Long program codes must not be attached as hard copy appendices but must be provided digitally on CD/DVD. If code is provided, it must be executable, at least at demo level.

vi. The internship file must be provided on CD/DVD in raw format. The internship file must not be scanned and transferred to optical media.

The internship file will be signed by a Software Engineer or Computer Engineer working at the workplace. If the intern has worked with more than one engineer, each engineer signs or initials the parts related to the work they assigned. Sections up to the end of the table of contents must be signed, and other sections signed or initialed. There must be no page without a signature or initials in the internship file. The chamber registration number or diploma number of the engineer(s) approving the internship file must be written in the internship file.

- Submission and Evaluation of Internship Files:

- The deadline for submitting internship files is the start date of the midterm exams of the semester following the internship period. The Internship Committee may change this date by announcing it, if it deems necessary. The deadline for submitting internship files cannot be later than the final exams of the semester following the internship period. The internship file is required to be submitted within the announced period.
- Internship files are evaluated by the internship committee. In this evaluation, scores are given taking into account the organization of the internship file, the introduction of the internship site, whether the work done during the internship is presented in the specified order, and whether the interns have a certain body of knowledge about the work done at the end of the internship.
- Interns whose internship record form has arrived and who have submitted their internship file are interviewed about their internships. The internship committee members examine the internship file and evaluate the internship in the interview. The "internship file success grade" is calculated by taking the average of the grades each member gives for the internship file and the interview. The internship of students whose internship file success grade is below 60 out of 100 is considered "Unsuccessful".

- The average of the grades given in the internship record form filled in by the internship organization is taken and a "record form success grade" is calculated for each student. The internship of students whose record form success grade is below 60 points is considered "Unsuccessful".
- In evaluating internship files, the average of the "internship file success score" and the "record form success score" is taken and the "internship success score" is calculated for each student.
- For an internship, the "valid number of days" for that internship is calculated by multiplying the number of days accepted by the Internship Committee as interned in the internship period by the ratio internship success score/100 and rounding up to the next whole number.
- If the number of days of an internship file accepted by the internship committee is fewer than 10 days, that internship is considered invalid.

PROVISIONS FOR THE DEPARTMENT OF ENERGY SYSTEMS ENGINEERING

1. INTERNSHIP SITE

The internship site must be a private sector and/or public enterprise, in Türkiye or abroad, operating in the energy sector and its subsectors or in other industrial areas where energy is used, and must employ at least one engineer who graduated in Energy Systems Engineering, Mechanical Engineering, Electrical Engineering, Electrical-Electronics Engineering or Nuclear Energy Engineering.

Internship sites suitable for the contents given below in the "Internship Areas and Contents" section must be selected. Internship sites not suitable for the "Internship Areas and Contents" will not be accepted. Internships done at private sector and/or public enterprises unrelated to Energy Systems Engineering (sales, accounting, business, marketing, foreign trade, tourism, etc.) are not accepted.

The suitability of the internship site is decided by the Energy Systems Engineering Department Internship Committee. The "internship site is suitable" approval must be obtained from the department internship committee at least 30 days before starting the internship.

2. INTERNSHIP AREAS AND CONTENTS

Internships must be done in accordance with the areas and contents specified below. Internships not suitable for the internship area and content specified below will not be accepted.

Of the 60 working days of internship, students must do 45 working days in the compulsory internship areas, and will complete the remaining 15 working days in the elective internship areas. No more working days of internship than specified for an internship area can be done.

In compulsory areas other than "Measurement Techniques", "Computer-Aided Drawing" and "Fundamentals of Electricity and Circuits", the student must have completed at least 6 (six) semesters of education in the department to do an internship there.

2.1. Compulsory Internship Areas and Contents

1. Measurement Techniques (5 Working Days): Basic concepts of measurement, basic analog electronics, digital electronics, instruments and methods for measuring dimension, pressure, flow, temperature, heat, force, strain, vibration and sound, uncertainty and statistical analysis of data, Fourier techniques, maintenance and repair of measuring instruments. For the stated content, the internship file must contain examples and/or completed applications.

2. Computer-Aided Drawing (5 Working Days): Project planning and design, two-dimensional project drawing, perspective and three-dimensional drawing of parts, solid modeling, printer settings and printing. For the stated content, the internship file must contain examples and/or completed applications.

3. Fundamentals of Electricity and Circuits (5 Working Days): Making conductor connections, building series and parallel circuits, making grounding and neutralization connections, building circuits with mechanical buttons, building thermostat-controlled circuits, building pressostat-controlled circuits, making single-phase motor connections, determining the order of the phases,

making three-phase motor connections, electrical circuits and their types, low-current application circuits, lighting, socket and power installation application circuits, plain switch and socket installation application circuit, commutator switch installation application circuit, two-way switch installation application circuit, fluorescent lamp installation application circuit, application circuit for control of a single-phase motor with a packet switch. For the stated content, the internship file must contain examples and/or completed applications.

4. Renewable and Alternative Energy Sources (10 Working Days): Solar energy and solar power systems, wind energy and wind energy conversion systems, calculation of wind turbine performance, hydraulic energy and power generation systems for hydraulic resources, formation of geothermal energy and geothermal cells and power generation, wave energy and wave energy conversion systems, electricity generation with fuel cells, energy generation from plant-based and other biological energy sources. For the stated content, the internship file must contain examples and/or completed applications.

5. Electrical Machines (10 Working Days): Structures, connection and operating modes of asynchronous and synchronous electrical machines, types of single-phase induction motors, stator windings of three-phase and single-phase induction motors, connecting three-phase induction motors to the grid, deriving equivalent circuits of induction motors, starting methods for synchronous motors, power angle and torque in synchronous motors, excitation of alternators, special-type electrical machines, DC and induction machines and their applications, maintenance and repair of electrical machines. For the stated content, the internship file must contain examples and/or completed applications.

6. Internal Combustion and Alternative Engines (5 Working Days): Operating principles and parts of internal combustion and alternative engines (such as electric and hybrid engines, Wankel engines, Stirling engines, etc.), testing them and determining their characteristics (such as pressure, power, efficiency, fuel consumption). Combustion and exhaust pollution in engines, engine selection, maintenance and repair of engines and their parts. For the stated content, the internship file must contain examples and/or completed applications.

7. Power Distribution Systems (5 Working Days): Power distribution systems, power factor correction, voltage drop calculation, transformer design, AC systems, single-phase and three-phase AC systems, phase difference, star-delta connections, power in AC systems, synchronous generators, synchronous reactance and short-circuit currents, distribution transformers, equivalent circuit, voltage drop, short-circuit voltage, connection characteristics, overload, short circuit. For the stated content, the internship file must contain examples and/or completed applications.
8. Thermal and Hydroelectric Power Plants (10 Working Days): Types, characteristics and components of thermal and hydroelectric plants, steam cycles and their applications, combined heat and power generation-cogeneration, combined gas-steam power cycle and its applications, thermoeconomic analysis, electricity generation and transmission in thermal and hydroelectric power plants. For the stated content, the internship file must contain examples and/or completed applications.

9. Hydraulic Flow Machines (5 Working Days): Characteristics of hydraulic machines, operating principles, performance, design principles, selection and application areas, pipe-machine systems, selection and design of centrifugal pumps, classification, selection and design of water turbines. For the stated content, the internship file must contain examples and/or completed applications.

10. Conventional Energy Sources (5 Working Days): Characteristics, methods of obtaining and areas of use of conventional energy sources (energy sources such as coal, lignite, petroleum and its derivatives, gas, nuclear, etc.). Natural gas project knowledge, natural gas line grounding rules, trench dimensions, cathodic protection techniques, valves used in natural gas installations, boiler gas supply line, natural gas burners, indoor natural gas installation, outdoor natural gas installation, natural gas service/consumption line, natural gas meters, natural gas safety rules, natural gas installation test rules, tools and equipment used in leak tightness testing, matter reactions and radiation, nuclear reactions, neutron diffusion and moderator, time-dependent reactions, heat transfer and heat removal in nuclear reactors, radiation protection, radiation shielding, reactor licensing, safety and environment, nuclear power plants and their application areas. For the stated content, the internship file must contain examples and/or completed applications.

2.1. Elective Internship Areas and Contents

1. Programming and Numerical Methods (5 Working Days): Programming languages used in engineering, numerical methods and their applications. For the stated content, the internship file must contain examples and/or completed applications.

2. Materials (5 Working Days): Materials used in engineering applications and their properties, material selection. For the stated content, the internship file must contain examples and/or completed applications.

3. Electrical Grids and Facilities (5 Working Days): Characteristics of electrical grids and facilities, materials used, low-voltage grid types and protection measures, electrical installation technology and applications. For the stated content, the internship file must contain examples and/or completed applications.

4. Heating, Ventilation and Air Conditioning (5 Working Days): Heating system design principles, heat and moisture transfer in building components, thermal insulation rules in buildings, TS825 standard, condensation control, heat load calculation in buildings, TS 2164 standard, heaters, tubular heaters, convectors, radiators, radiant heaters, pipe diameter calculation for hot water systems, diameter calculation in natural circulation and pumped heating systems, selection of boilers and other components, ventilation, psychrometric processes. For the stated content, the internship file must contain examples and/or completed applications.
5. Steam Turbines and Boilers (5 Working Days): Cycles in steam turbines, power cycles and steam consumption, operating principles of steam turbines, operation of steam turbines, steam and feedwater systems, thermal analysis of furnace superheaters,

economizers and air preheaters, heat exchanger analysis, log mean temperature difference method, effectiveness-NTU method and relations, methodology of a heat exchanger calculation, compact heat exchangers. For the stated content, the internship file must contain examples and/or completed applications.

6. Power and Control Systems (5 Working Days): Modeling of physical systems, DC and AC motors used in physical systems and their general structures, basic components used in power systems, power electronics components, their areas of use and applications. For the stated content, the internship file must contain examples and/or completed applications.

7. Energy Storage Systems (5 Working Days): Batteries, battery components, battery types, comparison of batteries, battery charge test, characteristics required of batteries, industrial uses of batteries, fuel cell systems, alkaline fuel cell, molten carbonate fuel cell, solid oxide fuel cell and solid polymer fuel cells, thermal energy storage and its systems, supercapacitors, superconducting magnetic energy storage, application areas of superconductivity, superconducting magnetic energy storage systems. For the stated content, the internship file must contain examples and/or completed applications.

8. Fuels and Combustion (5 Working Days): Physical and chemical properties and production of commonly used hydrocarbons, hydrocarbon fuels and alternative fuels, measurement of the calorific values of fuels, determination of adiabatic flame temperature, environmental problems caused by combustion, air pollution and global warming. For the stated content, the internship file must contain examples and/or completed applications.

9. Energy Legislation (5 Working Days): Legal rules regulating the energy sector and the regulations of the Energy Market Regulatory Authority, legal evaluation of the processes of energy generation, transmission, distribution and retail sale and of the institutions and organizations involved in these processes, legislation on energy law within the framework of the general principles of law, regulatory and supervisory activities in the energy field, duties and powers of EMRA, sanctions and lawsuits, competition in the energy sector, Electricity Market Law, Natural Gas Market Law, Petroleum Market Law, LPG Market Law, Law on the Use of Renewable Energy Resources for Electricity Generation, secondary legislation issued by EMRA, Constitutional Court and administrative court decisions, and example practices from other countries. For the stated content, the internship file must contain examples and/or completed applications.

10. Management and Organization (5 Working Days): Getting to know the factory, job procurement, production lines, assembly, maintenance, raw material-product storage, quality control and marketing, work preparation, management and organization, office work, document preparation, document flow, filing, archive, human resources management, public relations, quality management. For the stated content, the internship file must contain examples and/or completed applications.

11. Energy Systems Installations in Buildings (5 Working Days): Heating, ventilation, air conditioning and combustion systems used in buildings, clean water installation, hot water installation, wastewater installation, rainwater installation, treatment of clean and waste water, natural gas installation, LPG installation, chimneys and fire-fighting installation. For the stated content, the internship file must contain examples and/or completed applications.

12. Energy and Environment (5 Working Days): Environmental pollution, its sources and types, water pollution and contamination of aquatic environments, pollutants in water and their classification, wastewater treatment and applied techniques, soil pollution, its prevention and control, domestic solid waste and its control, industrial solid waste and its control, hazardous solid waste and its control, stationary air pollution sources and their control, mobile air pollution sources and their control, improvement of fuels, measurement of air pollution, measurement of stack emissions, control of gas emissions, filters, air pollution meteorology, air pollution modeling, atmospheric transport of heavy metals and other pollutants, noise pollution, its types and approaches to prevention, knowledge of environmental regulations, risk analysis, waste storage, personal protective measures, international health and safety warnings, occupational health and safety regulation, environmental pollution control legislation and its harmonization with the European Union. For the stated content, the internship file must contain examples and/or completed applications.
13. Manufacturing Methods (5 Working Days): Machining (lathe, milling, CNC, etc.) methods and application areas, machining applications, patterns, cores, mold design, casting methods, melting and casting, casting materials, design of parts to be produced by casting, classification of welding, weldability, cutting methods, welding methods, welding metallurgy, welding machines, welding electrodes, soldering, mechanical principles of metal forming, metal forming processes through bulk deformation, rolling, forging, extrusion, rod, wire and tube drawing, forming of sheet metals, cutting, slitting, shearing, bending, spinning, stretch forming, deep drawing, rubber forming, high-energy/high-rate forming processes (explosive forming, electrohydraulic forming and electromagnetic forming), superplastic forming, sheet forming criteria and forming limit diagrams. For the stated content, the internship file must contain examples and/or completed applications.

14. Energy Efficiency and Management (5 Working Days): Basic and detailed energy audit, data collection methods and tools, identification of energy saving opportunities (ESO), calculation of energy and cost savings, preparation of energy saving evaluation reports, energy efficiency in enterprises and buildings, implementation of energy efficiency legislation, the future of the energy industry, energy costs and tariff programs, obtaining energy and energy sources, developing a strategic energy plan, energy calculations, energy consumption analysis, tools for measuring and evaluating energy consumption, engineering economics. For the stated content, the internship file must contain examples and/or completed applications.

3. ORGANIZATION OF THE INTERNSHIP FILE

The internship file may be written by hand or on a computer with word processing programs. The narrative must be in the third person.
When written by hand, the writing must be neat and legible, and a ballpoint or ink pen must be used. Internship files written in pencil will not be accepted. Where technical drawing is required, using a standard pencil is mandatory.

When written on a computer with word processing programs, provided that the page has the same size and layout as the internship file page, the font must be "Times New Roman", font size 12 pt, headings in "Bold" font style and "Capital" letters. In subheadings, the first letters must be "Capital" and the other letters "Lowercase". Important words or word groups must be in "bold, italic and underlined" font style.

Photocopied and/or scanned text and paragraphs must absolutely not be used in the working day reports. Figures, tables and photographs may be placed in the file by photocopying and/or scanning.
Technical drawings must be drawn with a title block in accordance with technical drawing rules and approved by the relevant engineer or the enterprise. Technical drawings that do not fit on the internship file paper must be drawn on appropriate standard paper (A0, A1, A2, A3) and attached to the file, folded in the standard way.
When writing working day reports, the "name of the work done" and which of the internship areas specified in the section titled "Internship Areas and Contents" above the work done covers must be written at the top of the page. For example: Name of the work done: "ELECTRICAL INSTALLATION PROJECT DRAWING", internship area: "COMPUTER-AIDED DRAWING". Figures and tables must be numbered separately and consecutively. Figure numbers must be placed below the figures and table numbers above the tables. The name of the figure and table must be written next to the figure and table numbers. Figures and tables must be of visible size and appropriate resolution.
Page numbers must be given in chronological order, centered at the bottom of the page. A working day report must be written on at least one page; two or more working day reports must not be written on one page. A new page must be started for the next working day report.
Every page of the internship file must be signed by at least one engineer with the title Energy Systems Engineer, Mechanical Engineer, Electrical Engineer, Electrical-Electronics Engineer or Nuclear Energy Engineer. The engineer approving the internship file is required to state their chamber registration number or diploma number.
The internship file will consist of the following sections:

1. Outer cover
2. Inner cover (with photo and approved): Must include the student's name surname, number, internship start and end dates, number of internship days, and the name surname, signature and approval of the workplace supervisor.
3. Table of contents: The name of the work done for each working day and its page number must be given.
4. Introduction: The enterprises where the internship was done must be introduced (the enterprise's name, region, fields of activity, number of technical and administrative staff, etc.), and brief information must be given on the subject of the

internships done. The introduction section must not exceed one page. The introduction section is for information purposes and will not be counted as a working day.

5. Work Done During the Internship: In this section, the work done daily will be explained in detail in accordance with the rules specified in the internship directive.

6. Conclusion: At the end of the internship files, the knowledge and skills gained throughout the internship must be evaluated in summary, and opinions and thoughts must be written. The conclusion section is for information purposes and will not be counted as a working day.

4. SUBMISSION AND EVALUATION OF INTERNSHIP FILES

To allow the internships of students who complete their internships at the end of the internship period to be evaluated more effectively, the Office of the Department Internship Committee Chair will announce the recommended date for submitting the files on the department internship board at the beginning of the semester following the internship period. The internship files of students who do not submit their internship file within the announced period are absolutely not accepted. The internship of a student who receives a grade below 60 points in any two of the evaluation items in the internship record form is rejected entirely, regardless of the internship file.

If it is determined that the same work has been written for different working days, only one of these working days is accepted and the other working days are not accepted.

Working days not suitable for the internship area and content specified in the section titled "Internship Areas and Contents" are rejected.

If more internship is done than the working days specified for the internship areas, the excess working days in that internship area are not accepted.

Internship files are evaluated by the department internship committee. As a result of the evaluation, the interning student is given a "record form success grade" out of 100 points and an "internship file success grade". The "record form success grade" is calculated by taking the average of the grades given in the internship record form filled in by the enterprise where the internship was done. The "internship file success grade" is given by the department internship committee taking into account the organization of the internship file and the interview. The organization of the internship file is evaluated by considering whether the work done during the internship has been prepared in the order specified in the internship directive. The interview is held by the department internship committee. In the interview, an oral exam is held and the knowledge and skills gained by the interning student at the end of the internship are evaluated. The internship of a student whose internship file success grade is below 60 is rejected entirely.

The student's "internship success grade" is calculated by taking 50% of the record form success grade and 50% of the internship file success grade. For a student whose internship success grade is 60 or above, the suitable working-day internships are accepted and the unsuitable working-day internships are rejected. If the suitable working-day internship determined by the department internship committee is below 15 days, the student's internship is rejected entirely. At the end of each internship period, the department internship committee announces on the internship board the working days accepted/rejected from the internship areas done by the interning students.