E.U. ELECTRICAL AND ELECTRONICS ENGINEERING UNDERGRADUATE GRADUATION PROJECT GUIDE

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1. OVERALL SCOPE and TIMING

Students submit a project proposal in the field of Electrical and Electronics Engineering that clarifies a subject, solves a problem or deals with an application to the project advisor no later than **the first day of the third course week of the semester** they enroll in this course, taking into account the following Criteria Targeted in Engineering Education.

Targeted Criteria in Engineering Education:

1. Ability to apply knowledge of mathematics, science and engineering
2. Ability to design experiments, conduct experiments, analyze and interpret experimental results
3. Ability to design a system, part, or process to meet desired requirements
4. Ability to work in interdisciplinary teams
5. Ability to identify, define and solve engineering problems
6. Awareness of professional and ethical responsibility
7. Ability to communicate effectively
8. Broad education to understand the effects of engineering solutions on a universal and social scale
9. Awareness of the necessity of lifelong learning and the ability to realize it
10. To be well-informed about the challenges of our time and to practice one's profession in the field of electrical and electronic engineering with dedication and conviction, for the benefit of both oneself and society
11. Ability to use techniques and modern tools required for engineering practice
12. To be able to manage time and plan professional development
13. To be able to plan a project and determine details

After receiving approval of the Department Board with the proposal of the project advisor, the students officially begin their projects, and if they cannot get approval, they submit their new proposals within one week after the decision of the relevant board. **In case of second rejection, they are considered unsuccessful in the course**. The project progress report is submitted to the project advisor on **the first day of the second course week of the second semester at the latest**, they receive approval and are graded by the department board. Students who are enrolled **in a one-semester graduation project** and will graduate submit their progress reports to their project advisors no later than the last day of the 10th week of the semester, before doing the binding work, receive their approval. One-semester graduation project final reports are graded as midterm exam by the Department Board. Undergraduate Thesis Project Reports will be collected by the Project Coordinator and posted after approval by the project advisor. The display and presentation of thesis project **posters** will take place during **the 13th week of each semester**, while **presentations** and project demos will take place during **the 14th week**.

The selected projects are presented once again on the announced date, the top three projects are determined and certificates of achievement are given. They prepared according to the Undergraduate Graduation Project Guide:

- A bound copy of the final report to the project advisor.
- They submit a short 3-minute demo video of the project, in which the project is explained in detail, and all other information about the project such as the final report, poster, progress report, etc. in a CD or DVD to the graduation project's coordinator Volkan Akpınar **on the first working day following the final** exams.
- Requests via e-mail are heard on the department website on the relevant date.

Projects are graded by the department board after receiving the approval of the advisor. In addition, seminars will be held on the dates to be announced during the semester, and **80% of these seminars are required to be successful in the graduation project**. **Those who cannot complete their graduation projects on time and who do not fulfill all the processes mentioned in this guide properly, completely and on time are considered unsuccessful in the course if they do not have an official documented excuse and re-register in the following semesters**.

Note: The activity calendar specified on a weekly basis will be announced on the bulletin board and department website with its current dates at the beginning of the semester.

General Writing Rules: A4 size white paper will be used in the writing of the Project Final Report, the right, left and bottom margins on the pages will be 2.5 cm, and the top space will be 3 cm. Font size should be chosen as 11 points. The final report should be written in any software program (preferably MS-WORD) and the articles should be of readable darkness. Page numbers should be given in the middle at the bottom of the page. Units are given according to the International System of Units or the International System of Measurement (SI).

2. DRAFT UNDERGRADUATE GRADUATION PROJECT PROPOSAL REPORT

The aim of the project proposal report is to begin the students in their projects immediately at the beginning of the semester, to better visualize what they want to do, and to create a balance in terms of project levels and evaluations. Recommendation reports to be prepared in accordance with this draft **will be submitted on the first day of the third course week of the** semester at the latest. Students who do not submit their proposals on time or whose proposals are rejected twice by the Department Board are considered unsuccessful.

1. **Cover Page:** Project topic title and the semester it belongs to, names of the students (maximum two people) and numbers, **e-mail addresses**, **mobile phones,** project completion (exhibition and submission) dates, the name of the project advisor who approved the project; name, signature and date. The draft is attached (ANNEX-1).
2. **Project Purpose:** The subject of the study and the aim of the study are written. It should be clearly determined in a maximum of 2-3 sentences.
3. **Literature Summary:**
    - Current (preferably in the last 5 years) studies on the subject should be explained. Summarize the work and the results in a maximum of 2-3 sentences for each reference.
    - If there is a project on a similar subject in our department or as another undergraduate study, it should be explained.
4. **Subject/Scope:**
    - The subject of the study should be determined. It should be determined by a maximum of one paragraph.
    - It should show the differences with undergraduate projects on similar subjects.
    - Realistic engineering constraints to be considered in the project should be written (at least three engineering constraints should be used in projects, with cost analysis being mandatory).
5. **Project Objectives**: The scope of the proposed study and the technical objectives to be achieved should be explained in detail, and its relationship with the purpose should be explained.
    - What are the concrete measurable outputs?
    - Target performance metrics should be given with the table.
    - What are the standards that the Hardware/Software/System should have? What changes are foreseen in the design to comply with them?
    - Example: A difference amplifier whose output current can be limited, 5A ± 0.1A tolerance, 30V ± 0.2V tolerance, and whose CMRR value of at least 10^5 will be realized, etc.

6. **Contributions of the Project:** The benefits that can be provided to academic (in terms of education and science) and technology applications as a result of the realization of the project are discussed.
    - It should be listed item by item.
7. **Method:** The circuits to be designed or the programs to be written should be explained very briefly, and the block diagrams of the circuits should be drawn. It is stated that which circuits will be purchased from the market, which they will be a design product.

8. **Work packages and Timeline:** The main work packages to be included in the project and the recommended schedule order for them are given in an appropriate format. The main stages of the project and when each of them will take place are clearly stated. For this purpose**, a Gantt** chart should be prepared.
9. **Research Facilities:** Measurement equipment and setups required for the project.
    - The research opportunities and equipment planned to be used within the framework of the project are specified.
    - The approximate total cost of the project is derived.
10. **Project Budget:** The products you plan to buy and their prices should be explained in a table.
11. **References:** It should be given according to IEEE standards. (See "How to Cite References: IEEE Documentation Style" link: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjM-7mD3oXvAhWhz4UKHbO1ASUQFjABegQIEhAD&url=http%3A%2F%2Fieee-dataport.org%2Fsites%2Fdefault%2Ffiles%2Fanalysis%2F27%2FIEEE%2520Citation%2520Guidelines.pdf&usg=AOvVaw1Mg4wLCq1Q3N1SdXRIxQ5y)

Note: Undergraduate Graduation Project Proposal reports must be submitted to the project coordinator after being signed by the advisors.

3. REALISTIC CONSTRAINTS THAT UNDERGRADUATE PROJECTS MUST HAVE

Our students must use at least three engineering constraints in their projects, with cost analysis being mandatory in their undergraduate graduation projects. These restrictions are briefly explained below.

Economy: In the studies to be carried out in this context, issues such as Cost analysis, Recovery rate, Wear and depreciation calculations, Renovation Analysis, Economic feasibility reports of engineering projects, product and processing costs should be mentioned.

Cost analysis: Studies such as revealing the entire cost of the product as a result of all stages such as labor, raw materials, production possibilities, facility economy, product processing costs, energy costs in the processes leading up to the production of a product.

Environmental problems: Studies such as reducing the energy consumed in stages such as processing and production of the product and thus reducing harmful substances thrown into the environment, reducing harmful gas emissions to the environment by using alternative and renewable energies, choosing alternative materials for materials with recycling problems to nature.

Sustainability: Studies related to how long is the life of the material determined for a decided product design, whether it will not be used again such as scrap or garbage after use, or whether it is possible to reprocess and turn it into the same or another product, or if so, how long and in what amount it will be recovered.

Manufacturability: Studies on the stages that a design should go through, starting from the selection of materials and production methods, in order to be manufacturable.

Ethics: Evaluation of the studies to be carried out in terms of engineering ethics.

Health: Examination of whether the methods and materials to be used in the studies have a negative effect on human health.

Safety: An evaluation of the materials selected for the designed work in terms of engineering safety criteria, an evaluation to be made in terms of occupational safety whether the methods to be used in the studies cause any occupational accidents.

Social and political problems: Evaluations to be made in terms of social and political values, strategic and social interests of our country in areas such as military and defense industry, where social and political factors are important.

4. DRAFT PROGRESS REPORT

The purpose of the Project Progress Report is to enable students to progress in their projects and to determine the minimum goals to be achieved, if there are problems, to approve the changes to be made in terms of goals or design, and to prepare proposals for scholarship opportunities that will meet the budget foreseen for the project. Progress reports to be prepared in accordance with this draft are submitted to the project advisor on **the first day of the second course week** of the second semester at the latest and are graded as midterm exam by the department board. (Students who are enrolled in a one-semester graduation project must be **in the 9th week,** they submit their progress reports to the project advisors and receive their approval.). Students who do not submit

the progress report are considered unsuccessful in the graduation thesis.

1. **Cover Page:** The draft is attached (Annex-1). The project topic and the semester it belongs to, the names of the students (maximum two people) and their numbers, **e-mail addresses**, **mobile phones,** project exhibition and report submission dates, the name, signature and date of the project advisor who approved the progress report should be included.
2. **Table of Contents:** It should be prepared in a way that gives the headings, subheadings and their page numbers in the report.
3. **Subject and Problem definition:** The subject of the study and the intended objectives are stated.
4. **Literature Summary:** A short but as complete as possible literature and application summary by scanning the domestic and international literature in the relevant field and/or researching technology applications is given. The functions and features of similar circuits or devices used in the market are explained.
5. **Method/Theory:** Circuits to be designed or programs to be written are explained in detail, circuit diagrams are drawn, flow charts of software and written codes are given. It is specified which circuits have been or will be purchased from the market, and which are or will be designed products. The most important parameters related to the design, the final product or the scientific event examined are listed. Theoretical and/or experimental studies to be carried out to obtain, measure, design or model these parameters are clearly explained. If there are differences with the Recommendation Report, the reasons are explained.
6. **First Semester Achievements:** It should be written in detail to cover the following items.
    - Material Purchases
    - Developments Related to the Study
    - Problems Met and Solutions
    - Changes Made According to the Recommendation Report (**If ANY**, it should be clearly stated)
7. **Interim Results and Discussion:** The results obtained are explained in detail. Established circuits, run programs and their outputs are shown. The measurements made are given in graphs or tables. The results of the studies are evaluated, and the work schedule for the improvements/additions to be made is revised.
8. **Budget:** Budget possibilities, expenditures, project supports (BAP, TÜBİTAK, EBİLTEM, etc.), if any, are specified.
9. **References:** It should be given according to IEEE standards. (See "How to Cite References: IEEE Documentation Style" link: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjM-7mD3oXvAhWhz4UKHbO1ASUQFjABegQIEhAD&url=http%3A%2F%2Fieee-dataport.org%2Fsites%2Fdefault%2Ffiles%2Fanalysis%2F27%2FIEEE%2520Citation%2520Guidelines.pdf&usg=AOvVaw1Mg4wLCq1Q3N1SdXRIxQ5y

10. **Progress Report Self Evaluation Form:** The questions in the form given in Annex-3 are answered. Short and clear answers should be given.

5. POSTER STUDIES

Before the final reports of the Undergraduate Graduation Project are presented, students prepare posters to introduce their work in a visual and summarized way. The poster should include the abstract of the study, the steps of the study, the main results, a brief evaluation of the results and the references sections. The poster format is given in Annex-4. Posters are hung in the relevant area on the ground floor after the approval of the advisor one week before the presentations. The poster will have plastic/wooden laths at the top and bottom and will be able to be hung on nails with rope from the top.

6. PROJECT PRESENTATION

Groups that will present an undergraduate graduation project are required to prepare their presentations on the following topics.

- Problem description
- Method
- Results
- Realistic constraints and engineering standards used
- Conclusion
- References

Each group has a total of 15 minutes. 10 minutes of this time will be the presentation of the project, and the remaining 5 minutes will be the question-answer session including the exam commission and other listeners. It is important to comply with these durations.

7. UNDERGRADUATE GRADUATION PROJECT FINAL REPORT DRAFT

The purpose of the undergraduate graduation project final report is to summarize the work performed by the students for one year (for semester areas – one semester), to explain and report the results. The report includes the following parts in order:

1. **Cover Page:** The draft is attached (Annex-1). The project topic and the semester it belongs to, the names of the students (maximum two people) and their numbers, **e-mail addresses**, **mobile phones,** project exhibition and report submission dates, the name, signature and date of the project advisor who approved the progress report should be included.
2. **Undergraduate Graduation Project Information Form:** Annex-2 form is filled in. It is bound and given with the report.
3. **Preface:** Very brief information about the project should be given and the supporting institutions, if any, should be specified.
4. **Abstract Article:** It is written according to the guide given in Section 8.

5. **Table of Contents:** It should be prepared in a way that gives the headings, subheadings and their page numbers in the report.
6. **Table and figure lists:** If any, they should be added.
7. **Abstract:** The abstract is a text that will show the outline of the project. It should consist of at least 100 and at most 250 words. During the preparation of the abstract, the "Abstract preparation guide" prepared by the Institute of Natural and Applied Sciences of E.U. should be examined. Keywords should be written at the end of the abstract.
8. **Introduction Section:** The information in **Section II. of the abstract article** should be discussed more broadly and comprehensively. In this section, the importance of the project and its application areas should be mentioned. **The Subject/Purpose** and **Scope/Target specified in the project proposal or progress reports** should be reconsidered and written. If there are differences, what these differences are and their reasons should be briefly explained.

   The Literature Summary should be given with the necessary additions, summarize the studies in the literature on the subject related to the project and explain the differences with the study performed in your own project.
9. **Development Section:** The information in Sections III, IV, and V **in the abstract article** should be discussed more broadly and comprehensively.
   - **Theory:** The theoretical basis on which the study is based (e.g., starting points or assumptions from previously published books and articles) should be detailed.
   - **Experiment:** The information entered as data, the operations performed, the circuits established should be presented with their figures and explanations, using attachments if necessary. Catalog information pages of the parts used should be given in the appendices.
   - **Measurements:** The measurements made on all the circuits installed should be specified and input-output graphs describing the functionality of the circuits should be shown.
   - **Performance:** Technical evaluation and comparison should be made in line with the targets specified in the suggestions or progress reports regarding the part realized. This evaluation should be made based on measured or numerical values, not words or wishes. The reasons for the differences and how they can be eliminated should be discussed.
10. **Conclusion Section:** The results of the project work, their evaluation and discussion are given.
    - The results and the resulting project product should be introduced technically in a short and clear way.
    - How the results can contribute to education/practice should be briefly discussed.
    - In the conclusion part, the criteria fulfilled within the scope of the project should be emphasized.
    - **Design and Behavior Features:** A section should be written indicating the characteristics of the circuits (i.e. information for the potential user such as which voltage limits and frequency ranges can be operated, input voltage should be this frequency and that

frequency).

- **Future studies:** Innovations or new research proposals that can be developed on the subject should be presented.
- In addition, brief information about the cooperation with the organization(s) supporting **the project outside the university, if any,** and the total contribution amounts of these organizations to the project should be given.
- As an annex to the Undergraduate Graduation Project Final Report, **you can write your ideas that include the measures that can be taken or the investments that can be made by the university to** turn the results into practice.

11. **References Section:** The information in the Section VII. of the abstract article **should be given** in IEEE standards.
    (See "How to Cite References: IEEE Documentation Style" link: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjM-7mD3oXvAhWhz4UKHbO1ASUQFjABegQIEhAD&url=http%3A%2F%2Fieee-dataport.org%2Fsites%2Fdefault%2Ffiles%2Fanalysis%2F27%2FIEEE%2520Citation%2520Guidelines.pdf&usg=AOvVaw1Mg4wLCq1Q3N1SdXRIxQ5y
12. **Undergraduate Graduation Project Self Evaluation Form:** The questions in the ANNEX-5 form are answered. It is bound and delivered with the form report.

8. ARTICLE WRITING GUIDE

The article should be planned to be at least 4 and at most 8 pages. The article should be explained in article format without stating that the work is a graduation project. Subheadings: I. Abstract, II. Introduction and Literature Summary, III. Introduction and Working Principles of the System, IV. Examination of the System with Simulations on the Basis of Software, V. Experimental Examination of the System on the Basis of Hardware, VI. Results and Discussion, VII. References sections.

I. In the Abstract section, it should not exceed approximately 100 words and should be in such a way that a person who will read the Abstract can understand what has been done on both software and hardware basis and the innovations and contributions, if any. Keywords should be written at the end of the abstract. The article format template should be downloaded from the "IEEE Standards" page and used. All format details given in the link will be applied by paying attention.

Link: Paper Template – IEEE: (www.ieee.org › conferences › Conference-template-A4). The template is given in docx format in Appendix-9.

II. In the Introduction and Literature Summary section, the importance of the

study and its application areas are mentioned. A publication review is made on the subject of the study, who has done what is mentioned by briefly referencing, the place of the study among those in the literature is determined, and innovations and contributions that are not found in the literature, if any, are mentioned.

III. In the Introduction of the System and Working Principles section, the system is introduced, its working principles and control methods are mentioned. If any, the relevant associations are established by giving a reference**.**

IV. In the Examination of the System with Software-Based Simulations section, if a software-based study was carried out, it is explained which program was used and with what assumptions the simulations were carried out. The system is introduced on the basis of software and its working principles are mentioned, the simulation results are evaluated together with the graphics, if any, the expected results are compared with the obtained results and comments are made, and if there are differences, comments are made on the reasons.

V. In the section of Experimental Examination of the System on the Basis of Hardware, if an experimental prototype study is carried out on the basis of hardware, the circuit is introduced, circuit diagrams are given, block diagrams related to control methods are given, and working principles are explained. The tests are evaluated together with the outputs of the oscilloscope, etc., if any, the expected results are compared with the ones obtained, and if there are differences, comments are made on the reasons. If both software and hardware works are performed, they are compared and comments are made on the differences, if any.

VI. In the Results and Discussion section, the important findings and conclusions obtained at the end of the study and that need to be emphasized are mentioned. Innovations and contributions, if any, are mentioned by emphasizing their importance in practice. Potential future research topics are mentioned.

VII. In the References section, the references cited in the article are listed in numerical order. Reference information should include all the information that the reader can easily access regarding the referenced references such as books, magazines, websites. For example, book title, author name, name of printing company, year of publication, etc. For journals, information such as the full name of the article referenced from the journal, the names of the article authors, the name of the journal, the year it belongs to, the pages of the journal, etc. should be included. IEEE's reference format can be used for this.

9. EVALUATION OF UNDERGRADUATE GRADUATION PROJECTS

Proposal, Progress and Result reports are submitted to the project advisor and evaluated by the Department Board after approval. Evaluation criteria and scoring are given in Annex-8.

Undergraduate Graduation Project work is a one-year/one-semester process. The steps, rules, schedule and activities of this process are explained in detail in this document. It is summarized in

Annex-6 and Annex-7. Annex-6 has been prepared for students to follow the Undergraduate Graduation Project process. Students must fill in the relevant fields and submit the form in Annex-6 to the Project Coordinator after receiving advisor approval. In order to be successful in the Undergraduate Graduation Project, students must follow the process correctly and carry out their project work in accordance with the determined timeline. Students who do not comply with the determined rules and timetable are considered unsuccessful and must register for the course again in the following year/semester. Undergraduate Graduation Project course is not offered in summer school. The main criteria for success in the Undergraduate Graduation Project are summarized below:

- In the Undergraduate Graduation Project Board Evaluation Form; **From 2**, **5**, and **6**. to get at least 10 points from each of the items
- Attending seminars at a rate of 80%
- To deliver progress and result reports on time
- Hanging the poster, demo screening and presentation
- Delivery of project CD/DVD and video. During the on-line education, students must record their presentations as videos of up to 15 minutes in length, ensuring that both their video feed and the presentation slides are visible, and send them to their advisors. The projects selected by the Board are presented once again on the announced date and determined as "OUTSTANDING ACHIEVEMENT" projects and certificates of achievement are given.

10. LIST OF ANNEXES

ANNEX-1: Cover Page Draft
ANNEX-2: Undergraduate Graduation Project Information Form
ANNEX-3: Progress Report Self Evaluation Form
ANNEX 4: Undergraduate Graduation Project Poster Poster Format
ANNEX-5: Undergraduate Graduation Project Self Evaluation Form
ANNEX 6: Undergraduate Graduation Project Control Chart
ANNEX-7: Work-Timetable of Students Receiving Undergraduate Graduation Project
ANNEX-8: Undergraduate Graduation Project Board Evaluation Form
ANNEX-9 – IEEE article writing template (A4)

ANNEX-1: Cover Page Draft

T.C.
Ege University
Faculty of
Engineering
Department of Electrical and Electronics Engineering

Undergraduate Graduation Project Proposal (Development/Final Report)

PROJECT NAME

Name SURNAME
Student number, e-mail, telephone

Project Advisor: Title Name Surname

Bornova, IZMIR, October 2025

ANNEX-2: Undergraduate Graduation Project Information Form

E.U. DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING UNDERGRADUATE GRADUATION PROJECT INFORMATION FORM	
1- Semester (Fall/Spring):	2- Report Date:
3- Project Start and End Dates:	
4- Project Name: Total Cost of the Project:	
5. Specify your project work team. (Mark one.) ☐ In-discipline teamwork, ☐ Multidisciplinary teamwork, ☐ Self-study	
6- Students who will carry out the project and their contact information (address, e-mail, tel.)	
7- Organization where the project is carried out:	
8- Name, Address and Support Amount of the Supporting Organization(s):	
9- Abstract: Keywords:	
12- Advisor's Faculty Member Name/Surname and Opinion:	
13- Opinion of the Department Board:	
14- Project Success Status:	Grade Received by the Project:

ANNEX-3: Self evaluation form that students must fill out for the DEVELOPMENT REPORT:

1. **Explain the literature review and research.** *Sample answer: Completed. A total of 10 articles and projects were examined. 8 of them were IEEE papers and 2 were thesis projects were examined.*
2. Explain the differences and innovations of your study from previous studies? *Sample answer: In my department or "xxx" department of another university, a similar work named "xxx" found. There are differences in the application/method/restrictions in that study: a) requires more power/ another method is used, etc.*
3. Have material purchases been made? If not, explain the reason.
4. What are the realistic constraints <u>you use or consider</u>? (<u>Cost analysis is mandatory</u> at least two <u>of the others</u> should be selected. Restrictions that are not within the scope of the project <u>should be deleted</u>.) *a) Economy:* *b) Cost Analysis:* *c) Environmental issues:* *d) Sustainability:* *e) Manufacturability:* *f) Ethics:* *g) Health:* *h) Security:* *i) Social and political problems:* *For example, the proposed device/system should be cost-effective for widespread use, suitability of materials for SMD and mass production, whether they contain toxic substances such as lead, whether the device or system can be used to violate ethical principles – informal remote listening, remote human tracking, are the materials used by the device or system compatible with health applications, etc.*
5. What are the engineering standards you use or consider? *For example, in which sector (such as consumer electronics, automotive, military, avionics) the device or system will be used, which of the EMC/EMI standards suitable for that sector is it compatible with? Does it have protection against short circuit? Does it have ESD resistance or ESD protection? Can it provide the necessary tests for CE certification?* *Other standards based on (TSE, ISO, IEC, BS, FCC, etc. Is there any?) For network or IoT application, which protocols were used, e.g. IEEE 802.11 a/b/g; ZigBee, Bluetooth 5.0, LoRaWAN, NB-IoT, LTE-A, LTE-M etc.*
6. Explain how you perform project management. Indicate the tasks that each student is responsible for, together with their workload (in percentage) and time duration. *Sample answer:* *Student 1: was included in Job packages 1 and 2, performed tasks that are xxx; It has a 40% contribution; worked for 3 weeks*

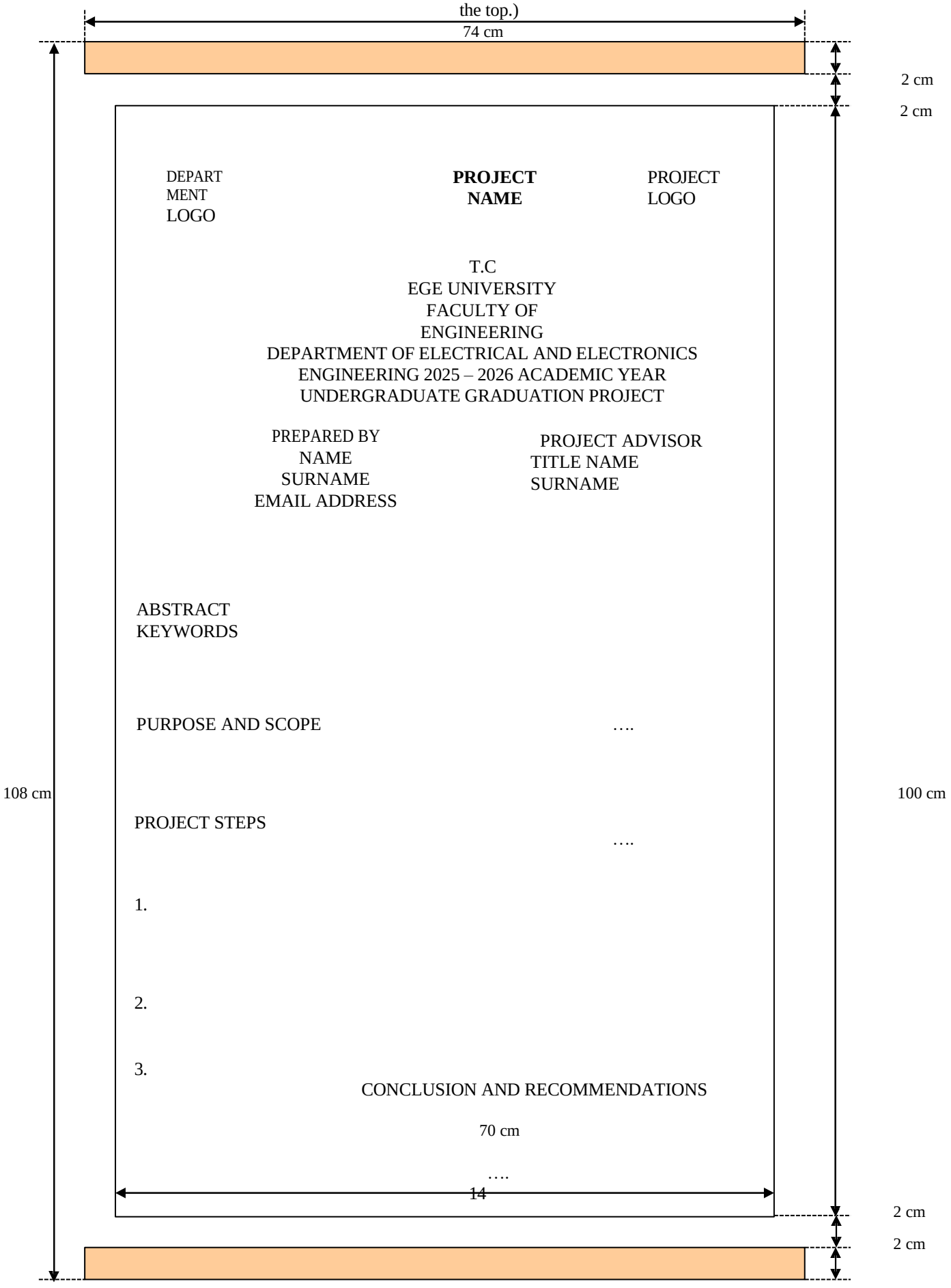
7. Have there been any changes/deviations in the recommendation report according to the schedule and/or subject? (The answer will be Yes or No). If yes, explain why.
8. What kind of problems and problems did you encounter during the project work? What kind of solutions have you brought to these problems and problems?

Note: In the form given above, each question must be carefully considered and answered. For this, each tab can be expanded as needed.

This form **will be given with** the 'Progress Report'.

ANNEX-4: Undergraduate Graduation Project Poster Format

Note: (There should be plastic/wooden laths at the top and bottom, the poster should be able to be hung with a rope from the top.)



ANNEX-5: Self evaluation form that students must fill in for the GRADUATION THESIS FINAL REPORT:

Answer the following questions about the work of your graduation project.

1. What is the design dimension of your project (prototype realization, simulation or analysis)?
Sample answers: Our project is software-based. (Explain which software was used/developed; Our project includes both hardware design and software development (explain which modules/design the hardware contains/which software has been developed);
Our project is simulation-based (which simulation medium did you use, what did you develop)

2. Explain the design method(s) you used.
Sample answers: Explain according to the answers you gave in the 1st section.

3. What are the engineering standards you use or consider?
For example, in which sector (such as consumer electronics, automotive, military, avionics) the device or system will be used, which of the EMC/EMI standards suitable for that sector is it compatible with? Does it have protection against short circuit? Does it have ESD resistance or ESD protection? Can it provide the necessary tests for CE certification?
Other standards based on (TSE, ISO, IEC, BS, FCC, etc. Is there any?) For network or IoT application, which protocols were used, e.g. IEEE 802.11 a/b/g; ZigBee, Bluetooth 5.0, LoRaWAN, NB-IoT, LTE-A, LTE-M etc.

4. What are the realistic constraints <u>you use or consider</u>? (<u>Cost analysis is mandatory</u> at least two <u>of the others</u> should be selected. Restrictions that are not within the scope of the project <u>should be deleted</u>.)

a) *Economy:*

b) *Cost Analysis:*

c) *Environmental issues:*

d) *Sustainability:*

e) *Manufacturability:*

f) *Ethics:*

g) *Health:*

h) *Security:*

i) *Social and political problems:*

For example, the proposed device/system should be cost-effective for widespread use, suitability of materials for SMD and mass production, whether they contain toxic substances such as lead, whether the device or system can be used to violate ethical principles – informal remote listening, remote human tracking, are the materials used by the device or system compatible with health applications, etc.

5. Explain how you perform project management. Each student is responsible for Specify the tasks together with the workload (in terms of job description and percentage) and time duration.
Sample answer:
Student 1: was included in Job packages 1 and 2, performed tasks that are xxx; It has a 40% contribution; worked for 3 weeks

6. Have there been any changes/deviations in the recommendation report according to the schedule and/or subject? If yes, explain why.

7. What kind of problems and problems did you encounter during the project work? What kind of solutions have you brought to these problems and problems?

Note: In the form given above, each question must be carefully considered and answered. For this, each tab can be expanded as needed. This form will be given together with the '**Undergraduate Graduation Project Final Report**'. It will be inside the bound report, not separately.

ANNEX-6: Undergraduate Graduation Project Control Schedule

Student's Name Surname Student's Number Student's Name Surname Student's Number	**PROJECT NAME** (Annual/Semester)			**DESCRIPTION** (It shows the weeks of the semester. The weeks specified in this calendar belongs to 1st for those who receive a semester project while for those who receive an annual project, 2nd)
Project Advisor Title Name Surname	**DELIVERY DATE RANGE**	**DATE DELIVERED**	**APPROVAL OF THE PROJECT ADVISOR**	
PROGRESS REPORT				**Annual project:** Spring Semester Week 2 Day 1 **Semester Project:** Week 9 1-5. days
POSTER				**Annual / Semester Project** **Week 13** (Spring Semester) Day 1-5 Graduation Project Posters submission and display on the board.
PRESENTATION AND DEMONSTRATION				**Annual / Semester Project** **Week 14** (Spring Semester) 1-5th day Presentations are made on the announced date and a demo is shown.
UNDERGRADUATE GRADUATION PROJECT REPORT				**Annual / Semester Project** It is submitted to the Project Coordinator on the first working day following the Semester/Final Exams.
CD				
VIDEO				

NOTE: Each student will have the ANNEX-6 schedule approved by the project advisor and submit it to the project coordinator. (Video delivery confirmation will be obtained from Volkan AKPINAR.)

ANNEX-7: Work-Time Schedule of Students Taking Undergraduate Graduation Project

COURSE WEEK	DAY	ACTIVITIES
3rd Week (Fall Semester)	Day 1	The project proposal is presented to the project advisor. With the proposal of the project advisor, students start their projects only after the validity of the project is approved by the Department Board. If they cannot get approval, they submit their new proposals within 1 week after the relevant board decision. In case of second rejection, they are considered unsuccessful in the course.
Annual: **2nd Week** (Spring Semester) Semester: **9th Week**	Day 1	Progress Report deadline: For annual projects, it is the first day of the second week of the second term. For one-semester projects, it is Day 1 of Week 9 of the term.
13.Week (Spring Semester)	Day 5	Graduation project poster is hung.
14.Week (Spring Semester)		Presentations and demos are made on the announced date and according to the program.
15th Week (Spring Semester)	• Students submit a bound copy of the final report they have prepared according to the Department Project Report Guide to the project advisor and project coordinator, together with electronic copies, on the first working day following the final exams. The project is graded by the department board after receiving the approval of the advisor. • Those who cannot complete their graduation projects on time and who do not fulfill all the processes mentioned in this guide properly, completely and on time are considered unsuccessful in the course if they do not have an official documented excuse and re-register in the following semester.	

ANNEX-8: Undergraduate Graduation Project Board Evaluation Form

	Evaluation Criteria	**Program Outcomes**	**Weight %**	**Grade Given %**
1	Graduation Thesis Participation in seminars (attendance is mandatory)	11	Yes/No	
2	Design/Analysis/Simulation	6	35	
3	Literature review and research related to the project work		5	
4	Project management and risk analysis	9,14	5	
5	Project Reports (Proposal, Development and Conclusion)	10	25	
6	Project Presentation, Poster and Video	10	20	
7	Realistic constraints used or considered	13	5	
8	Engineering standards used or considered	13	5	
		Total	**100**	

NOTE:

1. In order to be "successful" in the Graduation Thesis Course, there is a lower limit of getting at least 10 points from items 2, 5, and 6. Students who get less than 10 points from any of these items are considered unsuccessful in the course.

2. Graduation Thesis Participation in seminars is 80% mandatory. Students with less than 80% participation are considered unsuccessful. (Except for documented illness and reasons accepted as valid by other universities)

APPENDIX 9 – IEEE Conference Article Format - Example

Paper Title* (use style: *paper title*)

*Note: Sub-titles are not captured in Xplore and should not be used

line 1: 1st Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

line 1: 2nd Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

line 1: 3rd Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

line 1: 4th Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

line 1: 5th Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

line 1: 6th Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

***Abstract*—This electronic document is a "live" template and already defines the components of your paper [title, text, heads, etc.] in its style sheet. **CRITICAL: Do Not Use Symbols, Special Characters, Footnotes, or Math in Paper Title or Abstract*. (*Abstract*)**

Keywords—component, formatting, style, styling, insert (*key words****)***

Introduction (*Heading 1*)

This template, modified in MS Word 2007 and saved as a "Word 97-2003 Document" for the PC, provides authors with most of the formatting specifications needed for preparing electronic versions of their papers. All standard paper components have been specified for three reasons: (1) ease of use when formatting individual papers, (2) automatic compliance to electronic requirements that facilitate the concurrent or later production of electronic products, and (3) conformity of style throughout a conference proceedings. Margins, column widths, line spacing, and type styles are built-in; examples of the type styles are provided throughout this document and are identified in italic type, within parentheses, following the example. Some components, such as multi-leveled equations, graphics, and tables are not prescribed, although the various table text styles are provided. The formatter will need to create these components, incorporating the applicable criteria that follow.

Ease of Use

Selecting a Template (Heading 2)

First, confirm that you have the correct template for your paper size. This template has been tailored for output on the A4 paper size. If you are using US letter-sized paper, please close this file and download the Microsoft Word, Letter file.

Maintaining the Integrity of the Specifications

The template is used to format your paper and style the text. All margins, column widths, line spaces, and text fonts are prescribed; please do not alter them. You may note peculiarities. For example, the head margin in this template measures proportionately more than is customary. This measurement and others are deliberate, using specifications that anticipate your paper as one part of the entire proceedings, and not as an independent document. Please do not revise any of the current designations.

Prepare Your Paper Before Styling

Before you begin to format your paper, first write and save the content as a sep1a9rate text file. Complete all content and organizational editing before formatting. Please note sections A-D below for more information on proofreading, spelling and grammar. Keep your text and graphic files separate until after the text has been formatted and styled. Do not use hard tabs, and limit use of hard returns to only one return at the end of a paragraph. Do not add any kind of pagination anywhere in the paper. Do not number text heads-the template will do that for you.

Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads

unless they are unavoidable.

Units

- Use either SI (MKS) or CGS as primary units. (SI units are encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as "3.5-inch disk drive".
- Avoid combining SI and CGS units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.
- Do not mix complete spellings and abbreviations of units: "Wb/m2" or "webers per square meter", not "webers/m2". Spell out units when they appear in text: ". . . a few henries", not ". . . a few H".
- Use a zero before decimal points: "0.25", not ".25". Use "cm3", not "cc". (*bullet list*)

Equations

The equations are an exception to the prescribed specifications of this template. You will need to determine whether or not your equation should be typed using either the Times New Roman or the Symbol font (please no other font). To create multileveled equations, it may be necessary to treat the equation as a graphic and insert it into the text after your paper is styled.

Number equations consecutively. Equation numbers, within parentheses, are to position flush right, as in (1), using a right tab stop. To make your equations more compact, you may use the solidus (/), the exp function, or appropriate exponents. Italicize Roman symbols for quantities and variables, but not Greek symbols. Use a long dash rather than a hyphen for a minus sign. Punctuate equations with commas or periods when they are part of a sentence, as in:

$$a \square\square b \square\square\square\square \qquad \square\square\square$$

Note that the equation is centered using a center tab stop. Be sure that the symbols in your equation have been defined before or immediately following the equation. Use "(1)", not "Eq. (1)" or "equation (1)", except at the beginning of a sentence: "Equation (1) is . . ."

Some Common Mistakes

- The word "data" is plural, not singular.
- The subscript for the permeability of vacuum μ_0, and other common scientific constants, is zero with subscript formatting, not a lowercase letter "o".
- In American English, commas, semicolons, periods, question and exclamation marks are located within quotation marks only when a complete thought or name is cited, such as a title or full quotation. When quotation marks are used, instead of a bold or italic typeface, to highlight a word or phrase, punctuation should appear outside of the quotation marks. A parenthetical phrase or statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.)
- A graph within a graph is an "inset", not an "insert". The word alternatively is preferred to the word "alternately" (unless you really mean something that alternates).
- Do not use the word "essentially" to mean "approximately" or "effectively".
- In your paper title, if the words "that uses" can accurately replace the word "using", capitalize the "u"; if not, keep using lower-cased.
- Be aware of the different meanings of the homophones "affect" and "effect", "complement" and "compliment", "discreet" and "discrete", "principal" and "principle".
- Do not confuse "imply" and "infer".
- The prefix "non" is not a word; it should be joined to the word it modifies, usually without a hyphen.
- There is no period after the "et" in the Latin abbreviation "et al.".
- The abbreviation "i.e." means "that is", and the abbreviation "e.g." means "for example".

An excellent style manual for science writers is [7].

Using the Template

After the text edit has been completed, the paper is ready for the template. Duplicate the template file by using the Save As command, and use the naming convention prescribed by your conference for the name of your paper. In this newly created file, highlight all of the contents and import your prepared text file. You are now ready to style your paper; use the scroll down window on the left of the MS Word Formatting toolbar.

Authors and Affiliations

The template is designed for, but not limited to, six authors. A minimum of one author is required for all conference articles. Author names should be listed starting from left to right and then moving down to the next line. This is the author sequence that will be used in future citations and by indexing services.

Names should not be listed in columns nor group by affiliation. Please keep your affiliations as succinct as possible (for example, do not differentiate among departments of the same organization).

Identify applicable funding agency here. If none, delete this text box.

For papers with more than six authors: *Add author names horizontally, moving to a third row if needed for more than 8 authors.*

For papers with less than six authors: *To change the default, adjust the template as follows.*

Selection: ***Highlight all author and affiliation lines.***

Change number of columns: ***Select the Columns icon from the MS Word Standard toolbar and then select the correct number of columns from the selection palette.***

Deletion: ***Delete the author and affiliation lines for the extra authors.***

Identify the Headings

Headings, or heads, are organizational devices that guide the reader through your paper. There are two types: component heads and text heads.

Component heads identify the different components of your paper and are not topically subordinate to each other. Examples include Acknowledgments and References and, for these, the correct style to use is "Heading 5". Use "figure caption" for your Figure captions, and "table head" for your table title. Run-in heads, such as "Abstract", will require you to apply a style (in this case, italic) in addition to the style provided by the drop down menu to differentiate the head from the text.

Text heads organize the topics on a relational, hierarchical basis. For example, the paper title is the primary text head because all subsequent material relates and elaborates on this one topic. If there are two or more sub-topics, the next level head (uppercase Roman numerals) should be used and, conversely, if there are not at least two sub-topics, then no subheads should be introduced. Styles named "Heading 1", "Heading 2", "Heading 3", and "Heading 4" are prescribed.

Figures and Tables

Positioning Figures and Tables: ***Place figures and tables at the top and bottom of columns. Avoid placing them in the middle of columns. Large figures and tables may span across both columns. Figure captions should be below the figures; table heads should appear above the tables. Insert figures and tables after they are cited in the text. Use the abbreviation "Fig. 1", even at the beginning of a sentence.***

TABLE I. TABLE TYPE STYLES

Table Head	Table Column Head		
	Table column subhead	***Subhead***	***Subhead***
copy	More table copy[a]		

[a.] Sample of a Table footnote. (*Table footnote*)

Fig. 1. Example of a figure caption. (*figure caption*)

Figure Labels: Use 8 point Times New Roman for Figure labels. Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity "Magnetization", or "Magnetization, M", not just "M". If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write "Magnetization (A/m)" or "Magnetization {A[m(1)]}", not just "A/m". Do not label axes with a ratio of quantities and units. For example, write "Temperature (K)", not "Temperature/K".

Acknowledgment *(HEADİNG 5)*

The preferred spelling of the word "acknowledgment" in America is without an "e" after the "g". Avoid the stilted expression "one of us (R. B. G.) thanks ...". Instead, try "R. B. G. thanks...". Put sponsor acknowledgments in the unnumbered footnote on the first page.

References

The template will number citations consecutively within brackets [1]. The sentence punctuation follows the bracket [2]. Refer simply to the reference number, as in [3]—do not use "Ref. [3]" or "reference [3]" except at the beginning of a sentence: "Reference [3] was the first ..."

Number footnotes separately in superscripts. Place the actual footnote at the bottom of the column in which it was cited. Do not put footnotes in the abstract or reference list. Use letters for table footnotes.

Unless there are six authors or more give all authors' names; do not use "et al.". Papers that have not been published, even if they have been submitted for publication, should be cited as "unpublished" [4].

Papers that have been accepted for publication should be cited as "in press" [5, 2].1Capitalize only the first word in a paper title, except for proper nouns and element symbols.

For papers published in translation journals, please give the English citation first, followed by the original foreign-language citation [6].

[1] G. Eason, B. Noble, and I. N. Sneddon, "On certain integrals of Lipschitz-Hankel type involving products of Bessel functions," Phil. Trans. Roy. Soc. London, vol. A247, pp. 529–551, April 1955. *(references)*

[2] J. Clerk Maxwell, A Treatise on Electricity and Magnetism, 3rd ed., vol. 2. Oxford: Clarendon, 1892, pp.68–73.

[3] I. S. Jacobs and C. P. Bean, "Fine particles, thin films and exchange anisotropy," in Magnetism, vol. III, G. T. Rado and H. Suhl, eds. New York: Academic, 1963, pp. 271–350.

[4] K. Elissa, "Title of paper if known," unpublished.

[5] R. Nicole, "Title of paper with only first word capitalized," J. Name Stand. Abbrev., in press.

[6] Y. Yorozu, M. Hirano, K. Oka, and Y. Tagawa, "Electron spectroscopy studies on magneto-optical media and plastic substrate interface," IEEE Transl. J. Magn. Japan, vol. 2, pp. 740–741, August 1987 [Digests 9th Annual Conf. Magnetics Japan, p. 301, 1982].

[7] M. Young, The Technical Writer's Handbook. Mill Valley, CA: University Science, 1989.

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To have non-visible rules on your frame, use the MSWord "Format" pull-down menu, select Text Box > Colors and Lines to choose No Fill and No Line.