

## **Master's Degree (Second Cycle) Programme in Electrical and Electronics Engineering**

### **General Information**

The Department of Electrical and Electronics Engineering launched its education activities in 1994 by recruiting its first graduate students and then undergraduate students in 1995-1996 educational term. Doctorate program in the department started in 2006. The department has a young, dynamic and complete academic staff of 25 people, consisting of 2 Professor, 2 Associate Professors, 10 Assistant Professors, 1 Lecturer and 10 Research Assistants.

The Department of Electrical and Electronics carries out prestigious academic and scientific studies in the field and offers a competent education with its dynamic and young academic staff conducting various scientific projects supported by The Scientific and Technology Research Council (TUBITAK) of Turkey, State Planning Organization (DPT), Ministry of Industry and Trade.

Thanks to the bilateral agreements with EU countries and other countries, some of our graduate students continue their education abroad within the framework of Erasmus Program.

The department consists of six divisions: Circuits and Systems, Electromagnetic Fields and Microwave Techniques, Electrical Machines, Electronics, Energy Systems, and Communication. Some undergraduate students are welcome to participate and some graduate students can work as scholarship students in the projects conducted by our faculty members.

With its classrooms equipped with computers and new laboratory equipment, and project-supported, private-purpose research and development laboratories, the Department of Electrical and Electronic Engineering raises competent electrical and electronic engineers who contribute to today's technology.

Through the Master of Science (Second Cycle) programme, students develop skills to participate in scientific activities, and share the results with scientific community and they may continue their academic career by enrolling in related Ph.D. programs of the universities in Turkey or abroad.

### **Aims and Objectives**

#### **Aims :**

- To provide the students the skills to apply the advanced knowledge of mathematics, science and engineering especially for solving complex problems in their specialization area, to operate and conduct inter-disciplinary studies and to work with others, in professional and social settings and to organize and participate creative and integrative design activities effectively

- To offer advanced level education for engineers for taking part in research and making contributions to research and development in the field of science and technology
- To raise scientists in graduate level that has vision, analytic thinking skill and ethical values

### **Objectives :**

- To promote research and development studies in the fundamental areas of electrical and electronics engineering such as Communication, Circuits and Systems, Electromagnetic Fields and Microwave Techniques, Electrical Machines and Power Electronics, Electronics and Energy Systems that are needed by the industry both in national and international arena
- To play a role to contribute to the universal science in the field of Electrical and Electronics Engineering
- To create knowledge and technologies in a level that will contribute national development
- To develop scientific thinking and create projects that will enhance technological developments

### **Qualification Awarded**

Upon successful completion of this program, students are awarded with the qualification of MASTER OF SCIENCE DEGREE in ELECTRICAL and ELECTRONICS ENGINEERING.

### **Level of Qualification**

Master's Degree with thesis in ELECTRICAL and ELECTRONICS ENGINEERING is a two-year (4 semesters) program with 120 ECTS credits. The program meets the requirements both for ECTS credits and level descriptors of the "Second Cycle" degree qualifications of [the Overarching Framework of European Qualifications Framework HE \(QF-EHEA\)](#) and the "7th Level" qualifications of [the Turkish Qualifications Framework for HE \(TYYÇ, NQF-HETR\)](#), as well as the "7th Level" requirements of the qualifications of [the European Qualifications Framework for Lifelong Learning \(EQF-LLL\)](#) in terms of the level descriptors.

### **Specific Admission Requirements**

Admission requirements are determined in line with the regulations set by Higher Education Council of Turkey. Information on application for graduate programs and access requirements are announced on the web page of the university at the beginning of each academic year. The following requirements are applied for both national and foreign students:

- To have a First Cycle (BSc) degree in electrical and electronics engineering
- To have ALES (Entrance Exam for Academic Personnel and Postgraduate Education) with minimum score of 60 (or equivalent GRE point)
- The candidates with a Bachelor's Degree from abroad must have the certificate of equivalence from the Council of Higher Education (YOK).
- ALES score is valid for 3 years; however, after master degree is completed or the master program is ended by itself, a new ALES point for the candidates who want to apply Master program maximum one semester later is not required.
- If the graduate score is submitted with respect to 4-point system, this score must be translated to 100-point system according to the score translation table prepared by the Council of Higher Education (YOK).

For further and detailed information please visit [General Admission Requirements](#) and [Registration Procedures](#) in the menu items of the Information on the Institution.

For further information on the admission requirement for foreign students, please contact to Niğde Ömer Halisdemir University International Office.

**Contact:**

International Office

Niğde Ömer Halisdemir University, Kampüs, Bor Yolu, Niğde, TÜRKİYE

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**Web:** <http://www.ohu.edu.tr/uluslararasi>

**Specific Arrangements for Recognition of Prior Learning**

With an understanding of lifelong learning, Niğde Ömer Halisdemir University recognizes the previously taken courses in another institution and exempt them from graduation credit, as long as the courses match with the learning outcomes of the registered Master's Degree (Second Cycle) programme in Electrical and Electronics Engineering at Niğde Ömer Halisdemir University.

**Profile of the Programme**

Master's Degree program in Electrical and Electronics Engineering has been established with a vision that introducing innovative products can only be achieved by specialization and by combining creativity and engineering experience. Thus program is organized to provide the

students the opportunity to specialize in Circuits and Systems, Electromagnetic Fields and Microwave Techniques, Electrical Machines and Power Electronics, Electronics and Energy Systems and Communication. The students also develop skills to participate in scientific activities, and share the results with scientific community and they may continue their academic career by enrolling in related Ph.D. programs of the universities in Turkey or abroad.

Master's Degree program in Electrical and Electronics Engineering ("Second Cycle" in QF-EHEA and "7th Level" in TYYÇ ) is an academically-oriented program giving access to degree and non-degree research programs and professional practice demanding advanced levels of knowledge, skills and competencies. The program can be classified in regards to [ISCED \(The International Standard Classification of Education\) 2011](#) and [NQF-HETR \(The Turkish Qualifications Framework for HE\)](#) profiles and fields of education as follows:

- ISCED Field of Education: 52 - Engineering and Engineering Trades
- ISCED 2011 Level: 7, Orientation (Profile): 74, Subcategory: 747, Academically-oriented "Second Cycle" degree
- NQF-HETR Field of Education: 52 - Engineering and Engineering Trades
- NQF-HETR Profile of Education: Academically-oriented "Second Cycle" degree

### **Learning and Teaching Methods**

The most frequently used instructional methods of the educational programs of Nigde Ömer Halisdemir University are given below. Programmes commonly apply these methods as appropriate instructional approaches in accordance with their aims and objectives. The instructional methods applied for achieving the goal of meeting the expected learning outcomes of the Master's Degree program in Electrical and Electronics Engineering program at large are indicated in the section of 'program learning outcomes', and those methods utilized for individual course units are indicated in the relevant section of "description of individual course unit".

### **Learning and Teaching Methods**

- Lecture & In-Class Activities
- Land Surveying
- Group Work
- Laboratory
- Reading

- **Assignment (Homework)**
- **Project Work**
- **Seminar**
- **Web Based Learning**
- **Implementation/Application/Practice**
- **Thesis Work**
- **Field Study**
- **Report Writing**

### **Occupational Profiles of Graduates with Examples**

The global natures of the electrical and electronics industries ensure many career opportunities in Turkey as well as in Europe and beyond. Our graduates can be engaged in many fields such as research and development, design, production, marketing, after-sale services, project development, according to their individual interests and preferences.

The employment opportunities for our graduates may be in Small and Medium Enterprises, in large scale companies and multinational companies operating in consumer electronics, communication systems, embedded systems, industrial control and automation applications, energy systems and defense electronics.

Graduates of Master of Science program in Electrical and Electronics Engineering can take part in national and international projects which are not routine applications of everyday engineering problems and research and development activities. They can work as academic staff in higher education institutions. They can also apply to PhD programs in Nigde Ömer Halisdemir University and other institutions in Turkey or abroad.

### **Qualification Requirements and Regulations**

Master's Degree program (second cycle) in Electrical and Electronics Engineering is awarded to students who have scored a Cumulative Grade Point Average (CGPA) of not less than 2.50 /4.00, defended his/her thesis successfully, and have completed all the courses (120 ECTS) with at least a letter grade of CB or S in the program.

For detailed information: Please see "[Ömer Halisdemir University's Rules & Regulations for Graduate Education](#)"

### **Access to Further Studies**

Upon successful completion of this programme, students may apply to doctorate (third cycle) degree programmes in or related fields of ELECTRICAL and ELECTRONICS ENGINEERING.

### **Examination Regulations, Assessment and Grading**

The methods applied for assessment of the achievement of the expected program learning outcomes for the entire Second Cycle program of ELECTRICAL and ELECTRONICS ENGINEERING are shown below and those for the individual course units are given in the relevant section of the course description with their contribution to the final grades.

- Mid-Term Exam
- Final Exam
- Make-up Exam
- Homework Assessment
- Presentation of Report
- Computer Based Presentation
- Presentation of Thesis
- Presentation of Document

Mid-term and final examinations are conducted in dates, places and times determined and announced by the University. The students' final semester grade is given by their instructors based on mid-term examination, homework evaluation, final examination results taking into account the students' compliance with attendance to the course activities.

The contribution of assessment grades of the in-term activities to the final grade is 40% and that of the final exam is 60% for all the course units.

#### **Grading:**

The success of a student for each assessment (in-term and final) defined for each course unit is evaluated by the instructor. Evaluations are made over a scale of 100 points and converted to the letter grades at the end of the semester.

A student is considered to be successful in a course if he/she gets one of the following grades: AA, BA, BB, CB or S (Successful). The student's academic standing is calculated in the form of a Grade Point Average

(GPA) out of a scale of 4.00 and announced at the end of each semester. The total grade point of a course is obtained by multiplying the grade point by the course ECTS credit. The semester GPA is calculated by dividing the total amount of grade points of courses gained in that semester by the total amount of ECTS credits of courses taken in the semester. The yearlong courses are included in the spring semester GPA. Cumulative Grade Point Average (CGPA) is calculated by dividing the total amount of grade points of all the courses in the curriculum to be taken by the total amount of 120 ECTS credits. For each course taken, the student is given one of the following letter grades and grade points:

| <b>Course Score</b> | <b>Course Grade</b> | <b>Grade Points</b> |
|---------------------|---------------------|---------------------|
| 90-100              | AA                  | 4.00                |
| 85-89               | BA                  | 3.50                |
| 80-84               | BB                  | 3.00                |
| 75-79               | CB                  | 2.50                |
| 70-74               | CC                  | 2.00                |
| 65-69               | DC                  | 1.50                |
| 60-64               | DD                  | 1.00                |
| 50-59               | FD                  | 0.50                |
| 0-49                | FF                  | 0.00                |

### **Classification of the Qualification**

A student who obtains a CGPA of 2.00-2.99 is considered as a Satisfactory Student, the one who obtains a CGPA of 3.00-3.49 is considered as a Honours Student, and the one who obtains a CGPA of 3.50-4.00 is considered as a High Honours Student.

### **Graduation Requirements**

In order for a student to graduate from Master's Degree (Second Cycle) Programme in ELECTRICAL and ELECTRONICS ENGINEERING, he/she has

- Completed 120 ECTS credits with passing grades (56 ECTS credits for 7 graduate courses and 21 credits; 6 ECTS credits for a Seminar Course; 2 ECTS for thesis study; 6 ECTS credits for Special Topics Courses taken at 3 consecutive semesters, and 60 ECTS credits for Thesis Studies taken at 2 consecutive semesters).
- Prepared and defended a thesis successfully.

**Mode of Study:**

**Master of Science Programme in Electrical and Electronics Engineering at Nigde Ömer Halisdemir University is a full time / face to face programme.**

**Contact (Programme Director or Equivalent):**

| <b>Position</b>                     | <b>Name Surname</b>                          | <b>Phone</b>            | <b>E-Mail</b>  |
|-------------------------------------|--|-------------------------|--|
| <b>Head of Department</b>           | <b>Assoc. Prof. Dr. Murat BARUT</b>          | <b>+90 388 225 2227</b> | <a href="mailto:mbarut@ohu.edu.tr">mbarut@ohu.edu.tr</a>       |
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