

National Cheng Kung University (NCKU), Tainan, Taiwan



Tainan City is Taiwan's oldest city, serving as the seat of Taiwan in the Ming and Qing dynasties and has all along been the political, economic and cultural center of Taiwan as well as the preeminent area of education. "There is a God at every five steps" and "a temple at three", as the metaphor goes. Over 53 places here are classified as first, second and third-grade places of historic interest. Meanwhile, due to Tainan's focus on its development as both a high-technology center and an international exhibition center, Tainan is rapidly developing into a world-class city.

National Cheng Kung University (NCKU), founded in 1931 and located in Tainan, is the leading comprehensive university in Taiwan with more than eighty-eight departments in nine colleges, namely, Bioscience & Biotechnology, Electrical Engineering and Computer Science, Engineering, Liberal Arts, Management, Medicine, Planning and Design, Sciences, and Social Sciences. It enrolls more than 21,184 students and has 1,553 faculty members. The University offers a broad assortment of bachelor's, master's, and doctoral degree programs. The educational goal is to instill students with the essentials of humanities, global vision, and independent thinking. Our research objective is to pursue innovation, to foster logical thinking, and to discover the unknown.

In October 2005, the Ministry of Education of Taiwan selected NCKU as one of two target universities to receive extra funding for moving toward a world-class university. The NCKU graduates have been voted "the most welcomed graduates for enterprises" since 1993. The University is committed to enhancing its reputation through abundant resources, strong alumni support, and cooperative ventures

with the Tainan Science-based Industrial Park. We have been selected as the Prominent Research University in Taiwan and voted Industry's Most Favorable University, and we are ready to meet the challenges of the 21st century.

Department of Mechanical Engineering

The Department of Mechanical Engineering at NCKU has been established since 1931, and is the oldest and the most renowned mechanical engineering institute in Taiwan. Our alumni and alumna occupy important positions in Taiwan's industries, business, and governmental institutions. In addition, numerous faculty members of Taiwan and the world's leading universities graduated from this department. Each year, 170 undergraduate students, 162 master students (including 20 part-time students), and 49 Ph.D. students are enrolled in this department. Currently, this department employs 53 full time professors, 10 adjunct professors, 680 undergraduates, 324 master students, and 125 Ph.D. students.

The undergraduate curriculum is designed to provide students with a solid foundation in engineering science as applied to mechanical engineering, and to prepare graduates for entering graduate school and/or industry. The Graduate School offers advanced courses for qualified students leading to the degrees of the Master of Science and Ph.D. in Mechanical Engineering.

The Department has well-equipped laboratories and mechanical engineering workshops for teaching and research as well as for technical services to industrial organizations.



Features of the Department

1. Our department offers both stringent training in the fundamental knowledge of mechanical science and a broad introduction on state of the art engineering applications. Students graduating from our department are not only active in mechanically related industry, but also play critical roles in other high-tech fields such as semiconductors and optoelectronics.
2. Our department has excellent faculty members with extraordinary academic reputation and they are all eagerly devoted to education. Through the combination of state of the art facilities and innovative teaching styles, students are expected to have the most exceptional educational training leading to their successful career development.
3. Our department is the oldest department of mechanical engineering in Taiwan and has already made critical contributions to Taiwan's industrial and economic development for the past 70 years and this glorious history will be continued. Our alumni are outstanding and are actively involved in Taiwan's

industrial, governmental, and academic fields. Most of the alumni hold important positions in each field. Alumni from NCKU have become the favorite choice for business companies in Taiwan.

Department of Electrical Engineering

The Department of Electrical Engineering was established in 1931, the same time as NCKU. For over 8 decades, the department has continuously committed to improving the practice of electrical engineering through the education of professional electrical engineers. Currently, there are 34 professors, 10 associate professors, and 16 assistant professors, together with an enrollment of 754 undergraduates (including continuing education program), 517 master's students, and 318 Ph.D. students. To accommodate for the rapid expansion not only of the student population but also of the facilities, the department relocated to its newly built twelve story building in 1998.

Each year, approximately 180 students graduate with bachelor's degrees, 200 students earn master's degree, and 30 students earn their doctorates. More than 8500 EE alumni from over the years have fine accomplishments and have greatly contributed in various fields.

In recent years, in order to promote the research and development projects to meet the demands of several key-technology disciplines, the department has developed a comprehensive curriculum program to advance the fields of teaching and research. Eight specialized research groups, working independently yet in a cooperative mode, have been established. They are Electronics (Solid-State), Electronic Materials, Control, Computer and Network, Power, VLSI/CAD, Communication and Network, and Instrumentation systems.

In the past few years, each research group has actively participated in the establishment of technology basis required for their respective area, which has led to remarkable teaching and research accomplishments. The department plans to further advance along these specialized directions to enhance the teaching and research status, to facilitate the training of highly skilled electrical engineers, as well as to provide constructive contributions to the national industry. In particular, through the cooperation with the industry sector, further research, development, and integration of application-oriented key-technology systems are anticipated.

The newly established Tainan Science-based Park and the future planned Lutsu Science-based Park are only thirty minutes drive from Tainan city. Both parks focus primarily on the electrical engineering related industry. The department will, thus, play a very important role in the rapid growth of Taiwan's science and technology in the twenty-first century.

Educational Objectives:

1. Implement professional research and innovation capacity: to educate students to have professional knowledge of electrical engineering, and have the capacity of innovation and research.
2. Strengthen the spirit of team cooperation: to educate students with the skills of communication and expression and the spirit of team cooperation, in order to meet the different career developments and challenges.
3. Develop a diverse multi-disciplinary capacity: to provide students with enough skills to adapt to international trends and social needs, to allow students to learn in multi-disciplines, and to educate

students to understand the roles and responsibilities of the electrical engineer in society, environment, and ethics.

Course Catalogue

No	Title of Course	US Credits		ECTS	
		Fall semester	Spring Semester	Fall Semester	Spring Semester
Dept. Mechanical Engineering					
1	Theory of Combustion		3		6
2	Advanced Theory Of Combustion		3		6
3	Advanced Dynamics		3		6
Dept. System and Naval Mechatronic Engineering					
4	Computational Fluid Dynamics	3		6	
5	Design of Electric Motors	3		6	
Dept. of Environmental Engineering					
6	Experimental Design and Analysis	3		6	
7	Technical Writing and Presentation	3		6	
8	Special Topics on Solid Waste	3		6	
9	Advanced Air Pollution Control Technologies		3		6
Dept. of Chemical Engineering					
10	Advanced Chemical Reaction Engineering	3		6	
11	Advanced Chemical Engineering Thermodynamics	3		6	
Dept. Electrical Engineering					
12	Advanced Power Electronics	3		6	
13	Simulation of Power System Devices	3		6	
14	Robust Control	3		6	
15	Applications of Optimisation Theory		3		6
16	Power System Control and Operation		3		6
17	Resonant Converter Design		3		6

International Student Services

Local students are assigned to help the international students, and we will have the local students contact the international students by e-mail in winter or summer vacation before the next semester starts.

KHH airport pick-ups can be reserved during designated dates, but we don't have pick-up service for TPE airport, the students have to take the high speed train to Tainan.

As for the dorm rooms, the international degree students can have a reservation via the admission system. For international students, it depends on the dorm capacity, sometimes the students need to find a rental house off-campus.

Cultural Programme and Leisure Activities

Every semester, a trip for new students will be held. The cultural program can be found at the website of the city of Tainan (tour.tainan.gov.tw), and you will find out more about leisure activities after you arrive at NCKU. A handbook for degree students can be downloaded from the website of the university.

