

Electronics & Computer Engineering



HoD Note

The Department of Electronics and Computer Engineering is established from the very first academic year of National College of Engineering. The department has been imparting high quality education to the young budding engineers with the support of excellent infrastructures, well-equipped laboratories and valuable resources. A team of dedicated, highly qualified and experienced faculty members is always keen to share their knowledge and expertise with the students.

The department also arranges various value-added courses for the students according to the trending global markets. Besides, the department also conducts regular seminars, workshops and lectures by eminent experts from various renowned organizations. The students are encouraged to organize and participate in various local and national level technical events through Robotics Club and IT Club.

Er. Pradip Adhikaree
Head of Department
Department of Electronics and Computer Engineering



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Electronics, Communication Information Engineering

Electronics, Communication & Information Engineering (BECIE), the upgraded course of electronics and computer engineering, is four year Bachelor program in engineering offered by IOE, Tribhuvan University, based on two main branches: Electronics and Communication Engineering (BEX) and Information Technology (IT). The course deals recent global market trend on electronics, computer and information technology. Through the electronics communication and information engineering program, students gain basic knowledge of electronics, understand computer software and information network system.

Career

Electronics, communication and information engineer go on to successful careers in a wide range of organizations working locally as well as globally in the field of communication, software, mobile applications, electronics applications, networking, innovation and research. Electronics communication and information engineer can as:

- Telecom Engineer in Telecommunication companies like NTC, NCELL, Smart Cell, Hello Nepal etc.
- Software Engineer in Various Software Companies
- Electronics and communication Engineer/ IT Officer in Government Offices and Local Bodies
- Communication Engineer/Network Engineer in Internet Service Provider (ISP)
- Communication Engineer in Television, FM and Radio Broadcaster
- Avionics Engineer in Civil Aviation and Airlines
- Electronics and Communication Engineer in Nepal Police and Nepal Army
- Network Engineer/ IT Engineer in Banking Sector (eBanking, Mobile Banking)
- Biomedical Engineer in Hospital and Biomedical Institutions
- Electronics Engineer in Electronics Equipment/Households Manufacturing Companies
- Instructor/Trainer/Lecturer in Academic Institution
- Researcher in Innovation and Research Center
- Entrepreneur in your own Company

Electronics, communication and information engineering has wide scope in the fields of electronics engineering, communication engineering and information technology. More specifically, it covers the various fields such as electronics applications, computer hardware, software, telecommunication, wireless communication, digital and analog communication, artificial intelligence, robotics and automation, avionics, network engineering, embedded system, FPGA and IC Technology etc.



Choose Electronics Communication & Information Engineering if:

- You want to change the world with revolutionary technology in the field of electronics and information Technology
- You want to be a part of brain behind gadgets
- You want to make your career in IT
- Want to be an astronaut / You love robotics
- You want to be Computer Programmer
- You are fond of telecommunication and wireless technologies, artificial intelligence, machine learning etc.
- You think you have innovative and creative mind
- You accept the challenge of technology change

Why NCE for Electronics Communication & Information Engineering?

Electronics engineering is one of the pioneer fields of today's technology. We feel proud to say that it is the first course introduced at NCE. This Department is running successfully at NCE since its establishment. It has accumulated experiences and physical resources of more than 10 years, for providing quality engineering education and performing applied engineering research. We have very qualified and experienced faculty for this program. Our long experience and dedication has been able to setup all the requirements for a student. Studying electronics and information engineering here will not only boost up your knowledge but also will make you a complete professional.

It takes the followings as its prime objectives:

- To produce highly qualified, motivated, confident graduates with entrepreneurial attitude and innovative mind to fulfill the demand of today's world.
- To become a center of excellence in electronics & Information engineering research
- To collaborate with various organizations in making the engineering education more relevant to the domestic context and in obtaining in-country applied research solutions to the domestic technical problems.
- To enhance students with updated hands on skills needed by industry.

Resources

Department of electronics and computer engineering has a complete set of infrastructures needed for a person to be a good electronics and information engineer. We have fully equipped laboratories of basic electronics, digital logic, communication system, microprocessor, instrumentation, antenna, project and so on.

A highly experienced full time and visiting faculty is dedicated to provide high quality education in a very convincing way. Professors and lecturers here not only teach the course but also make you understand the practical applications so that your knowledge horizon enlarges.

The textbooks and other manuals necessary for the curriculum is provided by the library. Besides that, the department also provides necessary facilities and aids for participating in several kind of hardware and software competitions.

Achievements:

Winner – Dronacharya, 2019 (Organized by LOCUS, Pulchowk Campus)

Winner - UNDP SDG, 2018 (Organized by RAN)

Runner up- Kuruksheetra, 2017 (Organized by SOMES- IoE)

Winner - NASA International Space App Challenge, Kathmandu 2016 (Organized by ICIMOD)

Second Runner Up and Best Design Award - Yantra 1.0, 2013 (Organized by RAN)

Winner and Grand Prix Award - Robo Soccer, 2004 (Organized by Robotics Club- Pulchowk Campus)
And Many More...



By chains on the road by electron, I move.
I move so that the world moves
I am an engineer none other
I believe so thus, the progress moves

Engineering; an art, the science of building things. "Whatever is not created by God is built by engineers"- unknown; the applied knowledge of science, that knowledge is not asked but is achieved with hardship and dedication. Engineers; they build things to help the global society-making it a global village and NCE is one of such institutions that helps dedicators to excel their growth; grow their mind; share their knowledge and implement them. Whatever you learn depends on the environment you are; thus, you can promote yourself and broaden your view and expertise.

Diwas Khadka
072/BEX

Electronics, Communication and Information Engineering Curriculum

1st Semester

Engineering Mathematics I
Engineering Drawing I
Basic Electrical Engineering
Computer Programming
Engineering Physics
Digital Logic

2nd Semester

Engineering Mathematics II
Microprocessor
Engineering Chemistry
Object Oriented Programming
Workshop Technology
Electric Circuits and Machines

3rd Semester

Engineering Mathematics III
Electronics Devices and Circuits
Control Systems
Probability and statistics
Electromagnetics
Instrumentation

4th Semester

Applied Mathematics
Discrete Structure
Data Structure and Algorithms

Advanced Electronics
Computer Graphics
Numerical Methods

5th Semester

Engineering Economics
Database Management Systems
Computer Organization and Architecture
Object Oriented Software Engineering
Operating Systems
Filter Design

6th Semester

Communication English
Energy, Environment and Society
Propagation and Antenna
Communication Systems
Computer Networks
Embedded Systems
Minor Project

7th Semester

Project Management
Artificial Intelligence
Organization and Management
Digital Signal Analysis and Processing
Wireless Communication
Elective I
Project Part A

8th Semester

Telecommunications
Engineering Professional Practice
Information Systems
Elective II
Elective III
Project Part B

Elective Courses

- Satellite Communication
- Data Mining
- RADAR
- Biomedical Engineering
- Broadcast Engineering
- Avionics
- Optical Fiber
- IPV6
- Remote Sensing
- Agile Software Development
- Advanced JAVA
- Image Processing
- Enterprise Application Design

Field Visit

- NTV/Radio Nepal
- Nepal Telecom
- Sagarmatha Earth Station
- Pokhara (Hydropower, Cable car)



***Robotics
Competition at
NCE YATRA 3.0***