



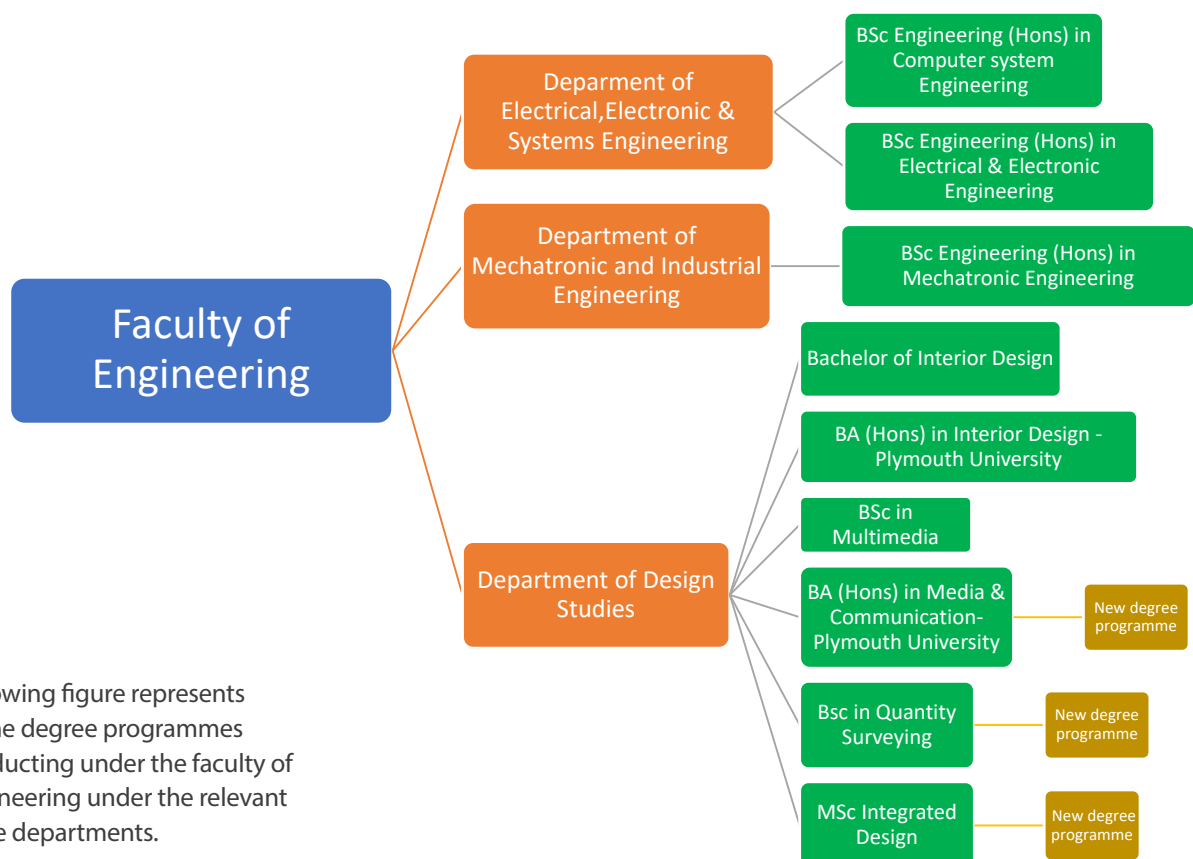
# Gearing Up Towards Industry 4.0

## Faculty of Engineering

The application of science to the optimum conversion of the resources of nature, to the uses of humankind is called 'Engineering'. It is divided into three major disciplines, each of which can be mapped to different industrial domains. The ultimate goal of the Faculty of Engineering is to produce professional engineers and scholars

(Interior Design and Multimedia) who will be ready to accept challenges even in a situation when the society, country or the world is facing any critical condition. Thus, our graduates will bring the country to its highest peak of development state on par with the international industries and developed nations. In the future, they will perform their best, holding professional engineering positions and professional designers in smart industries by amalgamating the skills related to their domains.

Strategically the Faculty of Engineering was established at the right time with the introduction of the most demanding fields of Engineering and Design that led the world into the fourth Industrial Revolution with smart technologies. The Faculty of Engineering will be the place where any complicated problem would find up to date solutions. We will be the governor of the industry 4.0.



Following figure represents all the degree programmes conducting under the faculty of Engineering under the relevant three departments.



All engineering programs are four (4) year degree programmes (B.Sc. Engineering Honours) in the following three disciplines currently and will be introducing some other most demanding programs near future. We ensure that all our engineering degree programmes are approved by the UGC and the Ministry of Higher education and are developed as per Washington Accord and IESL guidelines. We aim to produce career-ready professional engineers who can tackle problematic situations via a scientific approach involving the latest technology to cater to the trending demands of the industry.

All the design degree programs are conducting under the Department of Design Studies. The department of Design functions with the vision of the empowering the inherent creativity of the young learners by offering holistic state of art university experience through logical explicit, creative verities of Design Degrees in following discipline.

## Unique Qualities of the faculty

The Engineering Faculty of NSBM Green University is continuously evolving every day! It would be the most modern and improved faculty even after ten years. One most unique quality of our faculty is that we will continue being an industry leader always, setting examples and inspirations to the industry by providing unique concepts.

Nearly all the projects are highly engaged with the requirements of the society and provides the most modern and innovative solutions with using the student management centers and laboratories that we own.

## Smart Laboratories

The NSBM Green University is incessantly investing in laboratory facilities to maintain the international standard by providing the ultra-modern technology on par with the developed countries. Thus, it is no wonder that the Faculty of Engineering is continuously evolving with the latest technology and facilities. Considering the requirements of students in the “new normal”, The NSBM took the initiative in introducing cyber-physical laboratories to the tertiary education sector in Sri Lanka. With the guidance of well-experienced academics, the students can now access any laboratory equipment from home. It is indeed a privilege for the students as the NSBM equips them with theory as well as practice to meet the expectations of the global market.

- Electronics Laboratory, Electronics Design Engineering Laboratory and Electronics Workshop facilitate students to develop their confidence to design technologically advanced electronic systems from fundamental level to complex versions. Modern technology for thermodynamics, fluid mechanics, and material testing laboratory facilities establish the core of Engineering for all students who follow these three-degree programmes.
- Electrical Engineering laboratories and real-world models used by the industry allow students to engage with the industrial level experience in their laboratory experiments. That lays the foundation for young undergraduates to become a career-ready professional engineer. The Faculty of Engineering facilitates studying fundamental to modern renewable energy concept

and smart grid concept through these smart laboratories.

- The mechatronics laboratory consists of modern equipment, from fundamental application to advance setups that can access and control all the sensors, actuators, and mechatronics modules from home through online mode. We are well equipped with several robots which can be utilized for several industries. Moreover, industrial robot arms prove our in-depth knowledge and experience to develop robotics technology for real industrial contexts.
- System engineering laboratories facilitate a range of vast experiences, from Single Board Computer to Cloud Technology, providing the first-hand experience to design a computer system with Unix with the aid of our own operating systems. There are several computer laboratories such as System Security Laboratory that are furnished with the latest computers as well as well-equipped network.
- Telecommunication laboratory renders the required technology to experience and design communication systems with advanced simulation technologies and real physical communication systems which can be manipulated by RF (Radio Frequency) for data communication.
- Modern Studio and workshop facilities for design studies specially interior design multimedia and quantity survey degree programs to excel their skills with to match with the fast growing industrial environment.

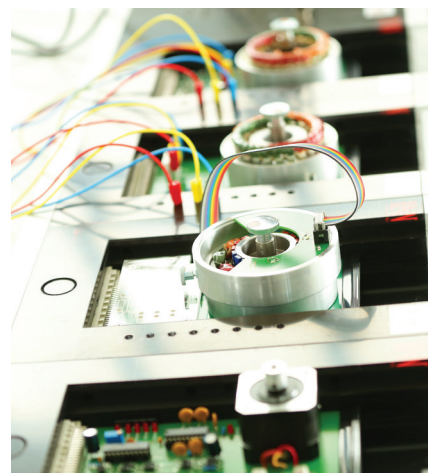
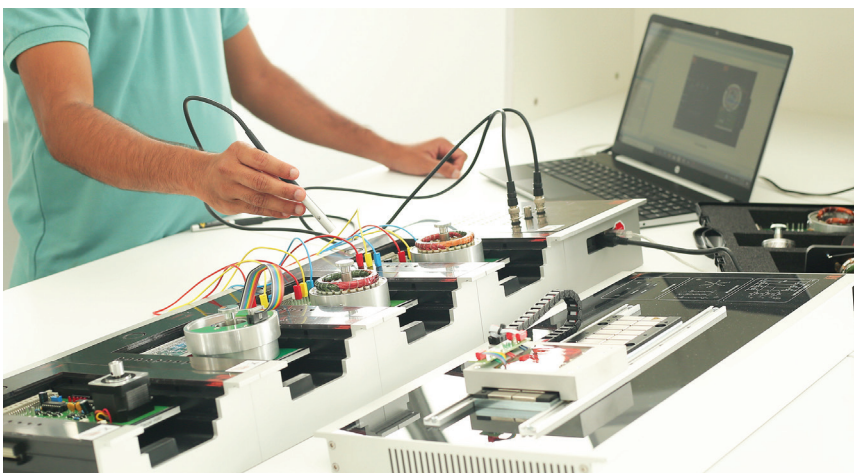
NSBM Green University has all the qualities that an extraordinary University should possess. They have identified the requirements of a fast-growing world and taken the initiative to build the best environment to work. Building the Engineering Faculty in 2018 was a

huge milestone that enabled the students of our country to get the best learning experience.

Therefore, it's a great pleasure to groom innovative individuals to the country, whom have experienced the best learning methods! The

industry can recruit our fresh, young graduates to aid their projects.

On the other hand, students are fortunate that they obtain a degree at NSBM Green University, which will not lose its value even after fifty years.



## DEPARTMENT OF MECHATRONIC AND INDUSTRIAL ENGINEERING

Mechatronics engineering is an interdisciplinary branch of engineering that focuses on the integration of mechanical, electronic and electrical engineering systems,

and also includes a combination of robotics, electronics, computer science, telecommunications, systems, control, and product engineering.

Through collaboration, the mechatronic modules perform the production goals and inherit flexible and agile manufacturing properties in the production scheme. Modern

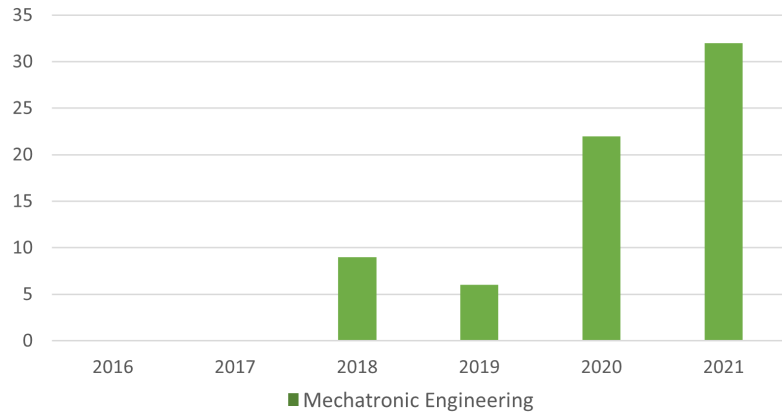
production equipment consists of mechatronic modules that are integrated according to a control architecture. The most known architectures involve hierarchy, polyarchy, hierarchy, and hybrid. The methods for achieving a technical effect are described by control algorithms, which might or might not utilize formal methods

in their design. Hybrid systems important to mechatronics include production systems, synergy drives, planetary exploration rovers, automotive subsystems such as anti-lock braking systems and spin-assist, and everyday equipment such as autofocus cameras, video and hard disks etc.

Department of Mechatronic and Industrial Engineering is offering very modern industry demanding B.Sc. Engineering Honors Degree in Mechatronics Engineering. Our engineering students get exposed to Industry Automation, Robotics, Manufacturing, Manufacturing Process Designing, Electronics and System Designing areas where highly demanding areas of smart industry of the future evolving today with the 4th Industry revolution occurring today. We are offering modern laboratory facilities certain can connect through online mode even. This unique opening is enhanced with highly qualified academia, leading edge laboratory complex and industry partnerships. Adhering to professional engineering practices and being touched with neighbour disciplines, mold our graduates career-ready to head start with the fourth industrial revolution – Industry 4.0.

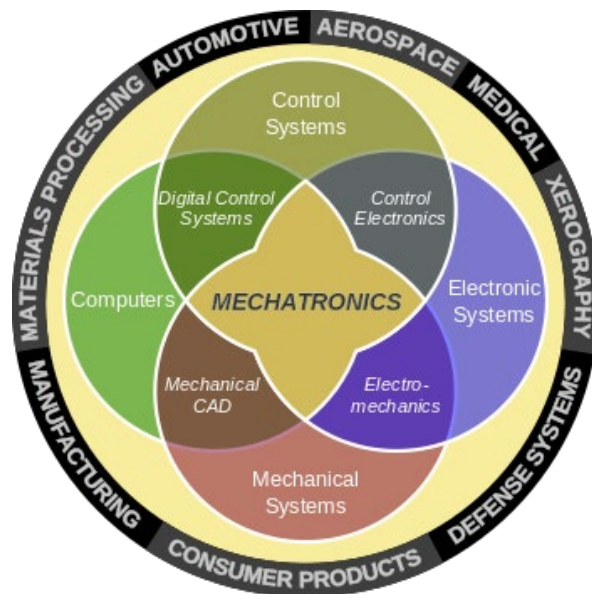
Since the Department of Mechatronic and Industrial Engineering has established in 2018 it is having a considerable improvement in student enrolments.

Department of Mechatronic and Industrial Engineering



Our leading-edge facilities and research move hand in hand with continuously advancing industry. Above all our culture maintains

professionalism, ethics and sense of responsibility to nurture future generation.



## DEPARTMENT OF ELECTRICAL, ELECTRONIC & SYSTEMS ENGINEERING

### Description

Department of Electrical, Electronic & Systems Engineering offers

opportunities for students who are keen to be qualified beyond a traditional engineering discipline. Our engineering students get exposed to power & energy systems, electromechanics, communication systems, control systems, robotics & automation systems, electronics



& micro-electronics, modern computing systems while focusing on their preferred key specialization area. This unique opening is enhanced with highly qualified academia, leading edge laboratory complex and industry partnerships. Adhering to professional engineering practices and being touched with neighbour disciplines, mold our graduates career-ready to head start with the fourth industrial revolution – Industry 4.0.

Degree programmes offered under the department.

Degree programme title	Offering University
B.Sc. Engineering (Hons) in Computer System Engineering	UGC approved-offered by NSBM (offered through MoHE as well)
B.Sc. Engineering (Hons) in Electrical & Electronic Engineering	UGC approved-offered by NSBM

The vision is to produce professional engineers excel in their major with a thorough understanding of parallel disciplines to suit with highly competitive industry requirement. We reach our vision through dedicated academic culture which leads to research and innovation.

First, our exceptional blend of staff from academia and industry fosters the roots of engineering education, laying a strong foundation for multidisciplinary specialization opportunities. Electrical, electronic and computer system engineering undergraduates get access to a wide variety of subject areas including mathematics, electromagnetics,

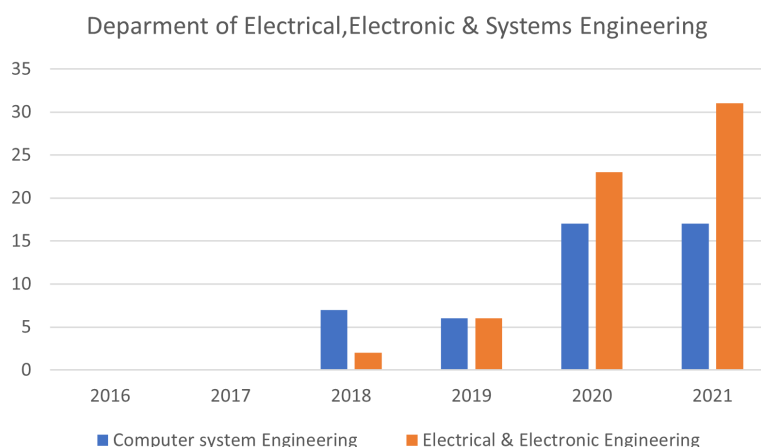
electromechanics, power & energy, communication systems, electronics & micro-electronics, modern computing systems, robotics & automation. To produce unique graduates, we create openings to be exposed to neighbour wings of engineering with multidisciplinary projects.

Second, our leading-edge facilities and research moves hand in hand with continuously advancing industry. Above all our culture maintains professionalism, ethics and sense of responsibility to nurture future generation.

Department of Electrical, Electronic and Systems Engineering (EESE) has a dynamic environment where new updates take place in line with advancing technology. Multiple co-curricular activities and extra events in department calendar gives openings to improve technical literacy and discover

student talents while providing a showcase to innovative ideas. Students at Department of Electrical, Electronic and Systems Engineering get immersed in a diverse range of novel opportunities from excellent academia to dynamic industry level engagements to nurture young engineers. Beyond the professional engineering background, clubs & society activities shape their personalities with teamwork, coordination and leadership skills.

Following figure represents the student's intake improvement of the Department of Electrical, Electronic & Systems Engineering over the years. The Department of Electrical, Electronic & Systems Engineering has started from 2018 and it is having a good improvement upon the relevant degree programmes.



## DEPARTMENT OF DESIGN STUDIES

### Background

The Department of Design Studies commenced with the vision of empowering inherent creativity of

young learners by offering holistic, state of art university experience through logical, explicit, creative varieties of Design Degrees. Department of Design studies is addressing the current industrial needs of the globe and creating

unique, creative design thinkers who could solve real life problem scenarios through their implicit and explicit knowledge domains. The Department of Design studies at NSBM is giving a unique learning experience to novice designers through a rich curriculum which is oriented on building a solid foundation for their inherent skills.

## Our Vision

Our vision is to create unique, outstanding, multi skilled, creative designers who could address critical real-life problem scenarios through their implicit and explicit knowledge

## Our Mission

- Educate highly motivated, passionate, creative thinking individuals.
- Empower people to seek excellence and be perpetually curious.
- Delivering high quality learning outcome which could be proved in any competitive context
- Enable graduates to obtain occupations in top-level design and industry firms.

## Core Values

### a. Student empowerment and success

- We are engaging in the process of empowering our young learners to build their confidence to face real challenges in the competitive design market.
- We give individual, student oriented, face to face collaboration in order to build creativity and confidence

### b. Excellence

- Highly qualified experienced academic staff
- A state of art university experience with modern design studios and lab facilities



Providing high quality lifelong learning experience

### c. Inclusiveness

- We are committed to deliver inclusive, outstanding learning experience by connecting real world problem scenarios to academia to solve through innovative design solutions.
- Our design programs are product oriented to give the best explicit, diversified learning experience to the novice learner.

### d. Community

We foster relationships and a culture of service within and beyond our university

## Growth of the department

After the establishment of the department multiple initiations were taken to uplift the standards of the program. Special attention was given to Bsc in Multimedia Degree program because it was transferred from Faculty of Computing with very less number of students of 2020 October



intake. The department has to take necessary measurements to improve the student numbers and it was the biggest challenge at the beginning.

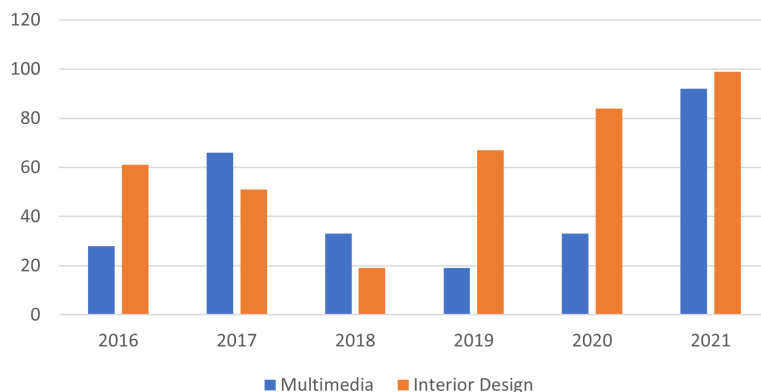
#### Initiation of New Degree Programs

After establishment of the department, necessary measurements were taken to introduce new degree programs in order to expand the spectrum of the Department of Design Studies. Following degree programs will be started from Sept 2021 intake with the affiliation of Plymouth University, United Kingdom. And the master's program developed to catch up the graduates who are graduating under design disciplines.

- BSc (Hons) Quantity Surveying – 3 years – starting March 2022
- BA (Hons) Creative Media and Communication – 3 years – starting March 2022
- MSc Integrated Design – for UGC approval – 2 years ■

*Complied by Ashendra Konara*

Department of Design Studies



Growth of the student numbers

