BACHELOR OF
MECHATRONICS
ENGINEERING
WITH HONOURS

(N/0788/6/0007)(03/31)(MQA/PA17306)

FUTURE-READY CURRICULUM FOR
INDUSTRY 4.0 EXCELLENCE

FOSTERING
INNOVATION & ENTREPRENEURIAL MINDSET

HANDS-ON LEARNING WITH
INDUSTRY-EXPERIENCED FACULTY

SEGi UNIVERSITY

SEGi was established in 1977 as Systematic College in the heart of Kuala Lumpur offering professional qualifications. Since its founding over four decades ago, SEGi has undergone significant growth, strengthening the quality of its wide range of programmes from foundation to doctorate level.

It is one of the most established private higher education institutions in Malaysia with its flagship campus located in Kota Damansara and four other campuses in Subang Jaya, Kuala Lumpur, Penang, and Kuching. Currently, SEGi has a population of 20,000 local and international students across its campuses.

SEGi is recognised as "The first Malaysian University that earned 5 Stars for Prioritising Society's Needs in Malaysia" by QS Stars, an international evaluation system for universities based on auditing.

AI & IoT:
ENGINEERING A CONNECTED FUTURE

- **Real-World Application**
- **Career Versatility & Global Opportunities**
- **Cutting-Edge Research**

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SEGi University's Bachelor of Mechatronics Engineering with Honours, a dynamic four-year journey preparing you for the Industry 4.0 era. Gain formidable expertise in automation, robotics, and IoT through a transformative curriculum integrating theory and hands-on experience under industry-experienced faculty. Explore cutting-edge subjects like AI and precision engineering, honing critical thinking and problem-solving abilities.

At SEGi, innovation is paramount – graduates master digital technology, data analysis, quality management, and ethical business acumen, ready to lead with fresh ideas. This degree signifies excellence, integrity, and lifelong learning, empowering you to revolutionize engineering and thrive in rapidly evolving industries.

Programme Modules

Year 1
- Engineering Mathematics 1
- Engineering Drawing
- Electrical and Electronic Circuits and Applications
- Digital Electronics I
- Fundamental Engineering Mechanics
- Engineering Mathematics 2
- Advanced Engineering Drawing
- Programming in C++
- Analogue Electronics I
- Manufacturing Processing & Technology

Year 2
- Engineering Statistics
- 3D Engineering Design and Modelling
- Measurement and Instrumentation
- Engineering Mechanics
- Engineering Materials
- Computational and Numerical Analysis
- 3D Engineering Design Analysis
- Design of Machine Elements
- Power Electronics
- Thermodynamics

Year 3
- Integrated Design Project I
- Engineers and Society
- Control Systems
- Microprocessor
- Solid Mechanics
- Integrated Design Project II
- Safety and Risk Engineering
- Electrical Machines & Drives
- Vibration
- Fluid Mechanics
- Industrial Training (12 weeks)

Year 4
- Final Year Project 1
- Project Management, Planning and Control
- Embedded System
- Manufacturing Systems Design
- Finite Element Analysis
- Artificial Intelligence
- Final Year Project 2
- Environmental Management and Technology
- Electronic Drives & Application
- PLC & SCADA
- Introduction to IoT

Mata Pelajaran Umum (MPU)
Note: Students need to take all 5 subjects, with items 2 & 3 are to be chosen from the list.

- Philosophy and Current Issues
- Penghayatan Etika & Peradaban (All Local students) OR Bahasa Melayu Komunikasi 2 (International students)
- Effective Listening OR Bahasa Kebangsaan A (Local Student wihtout credit in BM in SPM)
- Co-curriculum: Sustainability Thinking (All Local and International Students)
- Entrepreneurship

Entry Requirements

Note: Natural Sciences subjects include Physics, Biology, or Chemistry, with preference given to Physics.

- STPM - 2 principal passes including Mathematics and one relevant Science subject (Physics preferred).
- A-Level - 2 principal passes including Mathematics and one relevant Science subject (Physics preferred).
- UEC - 5 Bs MUST include Mathematics and one relevant Science
- Subject
- Foundation Studies - CGPA at least 2.00 in relevant field from institute of higher education recognised by the Malaysian Government
- Matriculation, Ministry of Education Malaysia: CGPA ≥ 2.0.
- Diploma or other relevant field with minimum of CGPA 2.0 from higher education institute recognised by the Malaysian Government
- Other - Equivalent qualification recognised by Malaysian Government.

For International Students:

- TOEFL: ≥ 500 or IELTS: ≥ 5.0.

Career Opportunities

SEGi's Mechatronics Engineering graduates are prepared for diverse careers like Mechatronics Engineer, Automation Engineer, Robotics Engineer, IoT Systems Engineer, Automotive Engineer, Aerospace Engineer, Consumer Electronics Engineer, Research Engineer, Academic/Lecturer, Entrepreneur/Startup Founder, and Sustainability/Environmental Engineer. With expertise in IoT, AI, and digital technologies, they can take on leadership roles, drive innovation, pursue design, development, research, establish startups, and contribute to sustainable solutions.

BRIDGING TECH
AI & IoT

With Mechatronics Engineering

Integrated Multi-disciplinary Education

Our programme offers an integrated multi-disciplinary education, seamlessly combining principles from mechanical engineering, electronics, computer engineering and information technology. This equips graduates with a versatile skill set to excel in interdisciplinary environments and catalyse innovation across industries.

Cutting-edge Technological Curriculum

Our dynamic curriculum covers cutting-edge fields like AI, IoT, robotics, and precision engineering, keeping students at the forefront of industry trends while equipping them to lead and shape the future of engineering.

Advanced Research Opportunities

Our cutting-edge research initiatives empower students to push boundaries, drive technological breakthroughs, and contribute to groundbreaking advancements in Mechatronics, even before graduation.

Professional Development

Our programme cultivates not only engineers but also leaders that seamlessly integrating professional development to hone leadership, project management and communication skills. This enables graduates to confidently navigate and lead complex projects.

Real-World Problem Solving

At SEGi University, we emphasise hands-on learning and practical problem-solving skills. Students engage with real-world engineering challenges, innovate sustainable solutions, and learn to apply their knowledge creatively, thus becoming impactful problem-solvers.

Industry-Relevant Experience

Through our robust industry partnerships, we provide invaluable internships and industrial training opportunities that equip our graduates with practical experience, setting them apart in the job market with the essential skills to excel professionally.

Sustainable Engineering Practices

Our courses emphasis on sustainable and eco-friendly practices, preparing students to engineer solutions that meet environmental needs and contribute to a sustainable future by integrating technology with ecological requirements.

Entrepreneurial Mindset

Our programme fosters entrepreneurial spirit and business acumen, providing students with the tools to translate visionary ideas into viable business models. This empowers them to launch startups and innovations that reshape the landscape of Mechatronics Engineering.

NOLOGY,

SEGi University's Mechatronic Engineering programme offers an unparalleled educational journey, integrating mechanical precision, electronic intelligence, and computational innovation to address contemporary challenges in automation and robotics. This advanced programme incorporates the latest advancements in artificial intelligence (AI) and the Internet of Things (IoT), providing graduates with hands-on skills in system design, control theory, and sustainable engineering practices. Through collaborative learning experiences with seasoned professionals, pioneering research opportunities, and invaluable industrial placements, students are empowered not only to prepare for the future but also to shape it. The programme fosters innovation, leadership, and propels the advancement of Mechatronics, positioning graduates at the forefront of Malaysia's industrial revolution.

segi.edu.my

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