BEng (Hons) Electro-Mechanical Engineering Top Up Award	
Department	The Department of Apprenticeships & Higher Education
Awarding Body	University of East Anglia
Additional Accreditations	None
Full-time Duration	One Year
Part-time Duration	Two Years
Full-time Annual Fee	£8,500
Part-time Annual Fee	£4,250
Entry Requirements	A level 5 qualification in an engineering discipline. An appropriate HND, Foundation Degree, or successful completion of 2 years of degree study in a relevant subject. Applicants will be asked to provide details of previous qualifications including Units / Modules of study which will be reviewed by Course Leaders to assess suitability for the course.
Study Location	University and Professional Development Centre, 73 Western Way, Bury St Edmunds UK
HECOS Code	
Subject to Validation	Yes
Additional Potential Costs	Outside of course fees, additional costs may include the purchase of core texts – we acknowledge individuals may prefer hard copy core texts for annotation and reference.

Course Information	Our program encourages you to question, analyse, and explore engineering challenges from multiple perspectives. You will become adept at collecting, organising, and interpreting information from diverse sources, making informed decisions and propose innovative solutions to complex problems. You will learn to identify, select, and justify appropriate techniques, methods, and development strategies while integrating ethical, sustainable, and environmental considerations. The course builds advanced technical knowledge and engineering skills to meet industry demands. You will apply engineering principles and the scientific method in operational and management contexts, planning and implementing creative solutions within cost and time constraints. Communication is key for engineers. You will develop exceptional skills to convey ideas clearly and effectively, engaging both expert and non-expert audiences with precision and confidence.
Key Course Features	The course is delivered on campus and requires students to attend one day per week part-time and two days per week full-time. Delivery of the course is through a range of methods including lectures, seminars, discussions, and workshops.
Career Prospects	Graduate engineers are in high demand across the Manufacturing and Engineering sector, which spans industries such as automotive, maritime, aerospace, food and drink, biomanufacturing, electronics, energy and renewables, automation, metal fabrication, and machining. These industries offer diverse career paths, including roles in design, management, programming, maintenance, production, quality, mechanical, electrical and electronic, research and development, materials, automation, machining, sustainability, casting, welding, and many more. As a government-designated *priority sector*, manufacturing plays a vital role in Suffolk's economy, with a mean annual gross pay of *£41,220 (ONS, 2024). Nationally, the sector is worth £518 billion and supports 7.3 million UK jobs directly and through its supply chains (Product Engineering Solutions Media, 2024). Advanced manufacturing and engineering are recognised as key growth sectors alongside clean energy. By 2035, the UK aims to be the world's leading destination to start, grow, and invest in advanced manufacturing (UK Government, 2025). *Income figures are only intended for guidance.

Module Summary	
	Indicative Course Content *Subject to Validation **Robotics, Automation Systems and Applications** This module explores advanced concepts in robotics and automation, focusing on their role in modern engineering and manufacturing environments. Students will develop a deep understanding of automated system design, integration, and control, while considering efficiency, sustainability, and Industry 4.0 principles. Students will explore the evolution and fundamentals of robotics and automation, system architecture and integration of sensors, actuators, and controllers, control strategies for robotic and automated systems, industrial applications: assembly lines, material handling, and flexible manufacturing, emerging technologies: IoT, cyber-physical systems, and smart factories, safety, standards, and ethical considerations in automation **Power Transmission with Electromechanics** This module provides students with an in-depth understanding of the principles, analysis, and design of power transmission and electromechanical systems commonly used in engineering practice. It aims to develop the ability to evaluate and integrate mechanical and electrical transmission components to achieve efficient and reliable power flow in modern engineering applications. Students will study traditional mechanical transmission systems such as belts, chains, gears, shafts, and couplings; alongside electromechanical systems that include motors, generators, and actuators. Emphasis is placed on analysing system efficiency, modelling performance characteristics, and applying computational tools to simulate torque, speed, and power relationships. The module encourages critical thinking in system selection and design, enabling students to assess trade-offs between mechanical and electrical transmission options in terms of performance, cost, and sustainability. **Digital and Embedded Systems** This module will develop skills required to design and implement complex embedded systems using assembly and C Programming languages. It will include hardware considerations for real-time embedded systems, debugging procedures and advanced use of C for real-time embedded system design. The module will discuss digital logic design, programmable logic devices, embedded system and will cover the basic architecture of microcontrollers along with their applications in embedded systems. Students will gain practical experience of interfacing computer programmes with physical engineering systems and will also gain skills in designing small systems to meet various design requirements. **Control Systems, Design and Analysis** This module studies complex control and automation systems used in modern manufacturing, design and energy production and distribution. It is designed to provide students with the necessary analytical and modelling skills to mathematically investigate, design, test and verify control systems for automation.

	Students will develop an understanding of the Fundamentals of control systems and automation, explore mathematical modelling of multi-feedback sensor-process-actuator systems, apply laplace transforms and traditional techniques for system analysis. Students will progress on to design and verification of advanced control systems from specifications. **Major Project** In the final year of your degree, you will complete your Major Project. The aim of the dissertation is for students to formulate and produce a substantial piece of independent research into an area of an engineering issue/problem of their choosing. It will develop and consolidate research skills, academic writing skills and synthesise knowledge and understanding gained throughout the degree. You will be supported by a Major Project Supervisor who will be one of your module leaders from the course team.
Staff Team	Our lecturing staff combine high level academic qualifications with industry experience, blending a range of relevant skills. Input from external experts provide a broad knowledgeable experience for students.
Assessment Methods	A variety of assessment methods are used which include written reports, written assignments, literature reviews, group presentations. Modules are assessed by the module leader and internally verified by another member of staff.

Typical Module Diet All modules are 20 credits unless stated	**Level Six** - Robotics, Automation Systems and Applications - Power Transmission with Electromechanics - Digital and Embedded Systems - Control Systems, Design and Analysis - Major Project (40 credits)
Study Hours	**Study Hours per 20 credit Module: 200 hours** Lectures and Seminars: 36 – 48 hours Assessments: 30 hours Preparation and Independent study: 122 – 134 hours *Typically, two 20 credit modules will be studied per Semester. There are two Semesters a year.

This programme is regulated by the Office for Students under the Quality Assurance Agency framework for UK Higher Education. Where studying may incur additional incidental or optional costs these are listed on the relevant course page on our website. Our Terms and Conditions, Admissions Policy (including baseline English language requirements) can be accessed via the University Studies website at https://www.universitystudies.wsc.ac.uk/policies