

DEFINITIVE COURSE RECORD

Course Title	FdEng Mechanical Engineering
Awarding Bodies	University of Suffolk
Level of Award ¹	FHEQ Level 5
Professional, Statutory and Regulatory Bodies Recognition	None
Credit Structure ²	240 Credits Level 4: 120 Credits Level 5: 120 Credits
Mode of Attendance	Full-time and Part-time
Standard Length of Course ³	2 years full-time
Intended Award	FdEng Mechanical Engineering
Named Exit Awards	None
Entry Requirements ⁴	Typical Offer: 80 UCAS tariff points (or equivalent) GCSE grade C in Maths (or equivalent)
Delivering Institution	University of Suffolk at West Suffolk College
UCAS Code	H300

This definitive record sets out the essential features and characteristics of the FdEng Mechanical Engineering course. The information provided is accurate for students entering level 4 in the 2017-18 academic year⁵.

Course Summary

The overall aim of the FdEng Mechanical Engineering programme is to equip students with the fundamental knowledge required for a technician engineer role within industry and/or to enable them to progress their studies within the BEng (Hons) in Mechanical Engineering. The curriculum provides broad coverage of the key engineering mathematical, instrumentation, electrical and scientific concepts relevant to engineering, as well as core employability skills and knowledge pertaining to electrical machinery, plant protection, the application of electrical and digital electronic principles, electrical and electronic systems design, electrical power systems and microprocessor based systems. The course also provides fundamental professional development and research skills, whilst providing an opportunity for students to explore and develop project design and implementation. The programme encompasses a range of workshop experience for full-time students including wiring and testing electrical equipment and electronic circuits, producing computer aided design models, wiring and testing programmable controllers, proving programs for computer numerical controlled machinery and forming electrical cable enclosures to augment

¹ For an explanation of the levels of higher education study, see the [QAA Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies \(2014\)](#)

² All academic credit awarded as a result of study at the University adheres to the [Higher education credit framework for England](#).

³ Where the course is delivered both full-time and part-time, the standard length of course is provided for the full-time mode of attendance only. The length of the part-time course is variable and dependent upon the intensity of study. Further information about mode of study and maximum registration periods can be found in the [Framework and Regulations for Undergraduate Awards](#).

⁴ Details of standard entry requirements can be found in the [Admissions Policy](#)

⁵ The University reserves the right to make changes to course content, structure, teaching and assessment as outlined in the [Admissions Policy](#).

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theoretical knowledge and assist in industry-linked project realisation. The focus is to produce work-ready technicians as well as prepare students for further study. This will be achieved through successful workplace/workshop application and a portfolio of evidence to support the ability to apply underlying technical principles within a practical environment.

Course Aims

The programme has been designed to cover the UK Engineering Council Specification for Higher Education programmes up to Bachelors level. The Foundation Degree is designed to reflect the nature and breadth of contemporary practice and will provide a foundation for those wishing to develop professional level skills in mechanical, electrical or electronic engineering.

Course Learning Outcomes

The following statements define what students graduating from the FdEng Mechanical Engineering course will have been judged to have demonstrated in order to achieve the award. These statements, known as learning outcomes, have been formally approved as aligned with the generic qualification descriptor for level 4/5 awards as set out by the UK Quality Assurance Agency (QAA)⁶.

1. knowledge and critical understanding of the well-established principles of mechanical engineering, and of the way in which those principles have developed within the contexts of advanced manufacturing processes and mechanical design systems/approaches
2. ability to apply underlying concepts and principles outside the context in which they were first studied, including, where appropriate, the application of those principles in an employment and/or practical context to develop employability skills; specifically considerate of the application of scientific principles within mechanical-system design, and how those designs are then refined for manufacture and assembly
3. knowledge of the main methods of enquiry in the fields of mathematics, control systems metallurgy and other such subject(s) relevant to mechanical engineering, and the ability to evaluate critically the appropriateness of different approaches to solving problems in the field of design engineering and manufacturing operations
4. an understanding of the limits of their knowledge, and how this influences analyses and interpretations based on that knowledge

Course Design

The design of this course has been guided by the following QAA Benchmarks / Professional Standards / UK Engineering Council Competency Frameworks:

- UK STANDARD FOR PROFESSIONAL ENGINEERING COMPETENCE, UK Engineering Council, Third Edition (2013).

Course Structure

The FdEng Mechanical Engineering comprises modules at levels 4 and 5.

Module Specifications for each of these modules are included within the course handbook, available to students on-line at the beginning of each academic year.

⁶ As set out in the [QAA Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies \(2014\)](#)

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	Module	Credits	Module Type ⁷
Level 4			
	Fundamental Mathematics & Methods	20	M
	Analogue Electronics Instrumentation & Control	20	R
	Personal Development	20	M
	Computer Aided Design and Solid Modelling	20	R
	Mechanical Engineering Design	20	R
	Manufacturing Processes Systems & Materials	20	R
Level 5			
	Applied Engineering Mathematics and Modelling	20	M
	Quality Systems, Management and Analysis	20	R
	Skills for Research and Problem Solving	20	M
	Introduction to Thermodynamics & Heat Transfer	20	R
	Level 5 Project *	20	O
	Applied Mechanics	20	R
	Design for Manufacture and Assembly	20	R

* The optional module is available for students to complete during an additional year of study in lieu of failure to successfully complete a requisite module.

Awards

On successful completion of the course, students will be awarded a FdEng Mechanical Engineering.

Course Delivery

The course is delivered at West Suffolk College. Students studying full-time on the FdEng Mechanical Engineering are likely to have approximately 270 contact hours for level 4 and 162 contact hours for level 5. The contact hours will be a mix of lectures, seminars and tutorials and full-time students will also be required to participate in 144 hours of workshop experience within the campus facilities to generate practical skills that augment academic development and employability. Students will normally be expected to undertake 24 hours of independent study in an average week (including contact and non-contact weeks), but should be prepared for this to vary based on assignment deadlines and class exercises.

⁷ Modules are designated as either mandatory (M), requisite (R) or optional (O). For definitions, see the [Framework and Regulations for Undergraduate Awards](#)

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Course Assessment

A variety of assessments will be used on the course to enable students to experience and adapt to different assessment styles. The assessment methods used will be appropriate to assess each module's intended learning outcomes. Assessment on the course overall will be approximately 60% coursework (including essays, reports, presentations, group work, reflective learning journals and research projects) and 40% examinations.

Course Team

The academic staff delivering this course are drawn from a team that includes teaching specialists and current practitioners. All staff are qualified in their subjects with their own specialist knowledge to contribute.

Course Costs

Students undertaking the FdEng Mechanical Engineering will be charged tuition fees as detailed below.

Student Group	Tuition Fees
Full-time UK/EU	£8,220 per year
Part-time UK/EU	£1,370 per 20 credit module
Full-time International	£10,080 per year
Part-time International	£1,680 per 20 credit module

Payment of tuition fees is due at the time of enrolment and is managed in accordance with the Tuition Fee Policy.

Students are likely to incur other costs for safety shoes and coveralls amounting to approximately £50, which should last for the duration of the course depending on the student's maintenance of such and fitness for purpose in view of size. In the case of optional field trips for enrichment (not-essential), the costs will be disseminated per trip and may vary from trip-to-trip / year-to-year and depend on the availability of staff.

Academic Framework and Regulations

This course is delivered according to the Framework and Regulations for Undergraduate Awards and other academic policies and procedures of the University and published on the [website](#).