**Programme Specification**

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| **Please note:** This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she passes the programme. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each module can be found in the programme handbook. The accuracy of the information contained in this specification is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education. |

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| **FdEng Engineering**  **FdEng Electronic Engineering**  **FdEng Electrical Engineering**  **FdEng Mechanical Engineering** |

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| 1. **Awarding Institution/Body** | University of Kent |
| 1. **Teaching Institution** | Mid Kent College |
| 1. **School responsible for management of the programme** | School of Engineering and Digital Arts/Mid Kent College |
| 1. **Teaching Site** | Mid Kent College |
| 1. **Mode of Delivery** | Full-time  Part-time |
| 1. **Programme accredited by** |  |
| 1. **a) Final Award** | FdEng |
| 7. **b) Alternative Exit Awards** | Certificate |
| 1. **Programme** | Engineering  Electronic Engineering  Electrical Engineering  Mechanical Engineering |
| 1. **UCAS Code (or other code)** |  |
| 1. **Credits/ECTS Value** | 240 credits (120 ECTS) |
| 1. **Study Level** | Undergraduate |
| 1. **Relevant QAA subject benchmarking group(s)** | Engineering (2015) |
| 1. **Date of creation/revision** | 2008/revised FSO Jan 2018 |
| 1. **Intended Start Date of Delivery of this Programme** | September 2018 |

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| 1. **Educational Aims of the Programme**   The programme aims to: |
| * Provide a programme of excellent quality to equip students with the necessary skills, underpinning knowledge, understanding and motivation to prepare them for a range of technical, professional and management roles and offer choice of vocational disciplines to pursue * Offer a variety of learning and work-related opportunities and experiences to foster self-confidence and autonomy to enable students to meet the challenges and demands of their chosen professions * Offer wide and flexible entry to allow students from all backgrounds to study in various modes e.g. full time, part time, evening only, flexi to suit personal and work situations * Enable mature students who seek to change career or re-train to access new vocations and educational progression routes * Promote the development of staff to stay informed and progress with industrial and educational practices, establish strong networking links with employers and accommodate special research interests   In relation to the teaching and learning strategy, the programme aims to:   * Prepare students for a technical and professional role in the workplace appropriate to their personal career aims. * Promote confidence in dealing with situations and problems of a technical social and industrial nature. * Provide a high quality system of tutorial support and guidance to encourage a mature approach to study and develop personal, social and transferable skills to increase the potential of students to enable them to achieve their goals. * Widen the students’ educational perspective * Enable students to form a broad knowledge base and apply this to the critical analysis and discussion of current issues relating to engineering * Offer a varied range of learning experiences, incorporating work-based practices to develop analytical, problem-solving, interpersonal, team-working and presentation skills. * Create an atmosphere of co-operation and partnership between staff and students and offer the students an environment where they can develop their potential, extend their knowledge, manage their own learning and carry out independent research. |

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| **16 Programme Outcomes**  The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas.  The programme outcomes have references to the subject benchmarking statement for Engineering (2015) (E) |

**A. Knowledge and Understanding of:**

1. Engineering principles and the ability to apply them to analyse key engineering processes (E2.1).
2. Mathematical principles relevant to engineering (E1.2).
3. Scientific principles and methodology relevant to engineering (E1.1).
4. Characteristics of materials, equipment, processes and products (E5.1).
5. Appropriate codes of practice, industry standards and quality issues (E5.6, E5.7).
6. Requirements and legislation associated with engineering activities including personnel, health and safety, environmental risks and promotion of sustainable development. (E4.3, E4.5)
7. The nature and value of property and contractual issues (E.5.5).
8. Management techniques which may be used to achieve engineering objectives (E4.2)
9. The need for a high level of professional and ethical conduct in engineering (E4.5).
10. Contexts in which engineering knowledge can be applied (B21).

**Skills and Other Attributes**

**B. Intellectual Skills:**

1. Analyse and solve problems using appropriate methods.
2. Apply and integrate knowledge and understanding of other engineering disciplines to support study of own engineering discipline (E1.3).
3. Identify, classify and describe the performance of systems and components through the use of analytical methods and modelling techniques (E2.2).
4. Apply a systems approach to electronic engineering problems (E2.4).
5. Investigate and define a problem and identify and manage constraints including cost drivers, economic, environmental and sustainability limitations; health and safety and risk assessment issues (E3.1, E3.3).
6. Identify and define customer requirements, user needs and aesthetic considerations for a design project. (E3.2)
7. Ensure fitness for purpose of all aspects of a problem including production, operation, maintenance and disposal (E3.5).
8. Use creativity and lateral thinking to establish innovative solutions. (E3.4)

**C. Subject-specific Skills:**

1. Work competently in an engineering laboratory environment using a wide range of equipment (E5.2).
2. Apply quantitative methods and computer software to solve engineering problems (E2.4).
3. Manage a design project and evaluate outcomes and make improvements. (E3.6).
4. Design systems and products to fulfil a given specification and devise tests to appraise performance.
5. Use technical literature and other information sources and apply these to a design (E5.4).
6. Work with technical uncertainty (E5.8).

**D. Transferable Skills:**

1. Demonstrate independent and self-managed learning to identify own personal strengths and weaknesses and formulate strategies for improvement towards personal, academic and career development.
2. Analyse, synthesise, evaluate and summarise information critically, including prior research.
3. Recognise and use subject-specific theories, paradigms, concepts and principles to develop arguments and discussion.
4. Demonstrate effective self-management in terms of time, planning and behaviour, motivation, self-starting, individual initiative and enterprise.
5. Apply knowledge and understanding to address familiar and unfamiliar problems.
6. Communicate effectively with other people using visual, graphic, written and verbal means.
7. Present quantitative and qualitative information, together with analysis, argument and commentary, in a form appropriate to the intended audience, including appropriate acknowledgement and referencing of sources
8. Work effectively with others within the context of a team
9. Develop skills in the use of communications and information technology to acquire, design, use and modify existing communication technologies.
10. Locate, extract, analyse, prepare, process, interpret and present data from multiple sources including drawn information using appropriate qualitative and quantitative techniques and packages.

**Teaching/learning and assessment methods and strategies used to enable the programme learning outcomes to be achieved and demonstrated**

**Teaching and Learning**

Strategies include:

lectures, practical applications, individual and group activities, seminars, ILT applications, experiments and field studies, role play, discussion groups, problem solving, , site visits, research activities.

Students are required to undertake ‘professional development’ activities to support their career goals and offer appropriate experience and exposure to other professionals. Opportunities can include meetings, committees, open events, external competitions and presentations to other professionals and the public etc.

Communication skills developed through presentations to groups and peers, written exercises, discussions and role plays. Teamwork to achieve deadlines, monitoring and evaluating performance. Develop client voice using IT to support. Research activities involving analysis of data, IT applications and presentations.

**Assessment**

Strategies include:

coursework, individual and group projects, graphical evidence, technical CAD drawings, research-based assignments, posters, collages, models, tests, experiment write-ups, reports, essays, peer assessments, portfolios/transcripts of work-based evidence, examinations. Individual and group presentations to different audiences including external client panels.

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| For more information on the skills developed by individual modules see the module mapping table, located at the end of this specification. |

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| **17 Programme Structures and Requirements, Levels, Modules, Credits and Awards**  The Foundation Degree is 240 credits and is studied over two years full-time or three years part-time. Part-time study includes day-release and evening study modes.  Students must successfully complete each module in order to be awarded the specified number of credits for that module. One credit corresponds to approximately ten hours of 'learning time' (including all classes and all private study and research). Thus obtaining 120 credits in an academic year requires 1,200 hours of overall learning time. For further information on modules and credits refer to the Credit Framework at <http://www.kent.ac.uk/teaching/qa/credit-framework/creditinfo.html>  Each module and programme is designed to be at a specific level. For the descriptors of each of these levels, refer to Annex 2 of the Credit Framework at <http://www.kent.ac.uk/teaching/qa/credit-framework/creditinfoannex2.html>.  Students successfully completing Stage 1 of the FdEng and meeting credit framework requirements who do not successfully complete Stage 2 will be eligible for the award of a Certificate in Engineering. For further information refer to the Credit Framework.  Compulsory modules are core to the programme and must be taken by all students studying the programme. Optional modules provide a choice of subject areas, from which students will select a stated number of modules. The normal expectation is that the termly module load will be equally balanced across the terms.  Where a student fails a module(s) due to illness or other mitigating circumstances, such failure may be condoned, subject to the requirements of the Credit Framework and provided that the student has achieved the **programme** learning outcomes. For further information refer to the Credit Framework at <http://www.kent.ac.uk/teaching/qa/credit-framework/creditinfo.html>.  Failing performance may not be condoned or compensated. |

This programme allows students to achieve a Foundation Degree in their chosen pathway by studying the compulsory modules plus the prescribed modules for the particular pathway. The prescribed modules for each pathway will be explained by the programme leader and are subject to change, depending on student numbers each year.

Students may alternatively elect to study a generic Foundation Degree in Engineering by studying the compulsory modules and selecting options from across the pathways.

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| **KV Code** | **Code** | **Title** | **Level** | **Credits** | **Term(s)** |
| **Stage 1** | | | | | |
| **Compulsory Modules** | | | | | |
| EENG3010 | ELM301 | Science | 4 | 15 | 1 & 2 |
| EENG3080 | ELM308 | Analytical Methods (Engineering) | 4 | 15 | 1 & 2 |
| EENG3040 | ELM304 | Industrial Applications I (Engineering) | 4 | 15 | 1 & 2 |
| EENG3051 | ELM305 | Personal Skills 1 – Communication & Research | 4 | 15 | 1 & 2 |
| **Optional Modules**  Students must select four modules (60 credits)from a list for each pathway, provided by the College | | | | | |
| **Stage 2** | | | | | |
| **Compulsory Modules** | | | | | |
| EENG5020 | ELM502 | Management Techniques | 5 | 15 | 1 & 2 |
| EENG5000 | ELM500 | Engineering Design | 5 | 15 | 1 & 2 |
| EENG3111 | ELM311 | Industrial Applications 2 | 5 | 15 | 1 & 2 |
| EENG5010 | ELM501 | Personal Skills 2 – Personal Development | 5 | 15 | 1 & 2 |
| EENG3120 | ELM312 | Industrial Applications 3 | 5 | 15 | 1 & 2 |
| **Optional Modules**  Students must select three modules (45 credits) from a list for each pathway, provided by the College | | | | | |

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| **18 Work-Based Learning** |
| Disability Statement: Where disabled students are due to undertake a work placement as part of this programme of study, a representative of the College will meet with the work placement provider in advance to ensure the provision of anticipatory and reasonable adjustments in line with legal requirements. |
| * The programme contains three Industrial Applications modules and two Personal Skills modules as the compulsory work-related element to prepare students for professional work in the Engineering industry. * Assessment includes work-based simulations to enable students to work effectively in teams to meet customer specifications, plans and manage the project and present to a client panel comprising employers from the consortium. * The main work placement assessment is via portfolios of evidence/reflective logs compiled by the students in negotiation and agreement with the module tutor. Employers are asked to support the evidence through reports/witness statements etc. Students present both written and oral summative reports. Finally, students complete a major piece of work based upon a selected work-based role, situation or specific area of study that links theoretical topics from the programme with the work place. * Support for these work-based elements is given by the module tutor for the appropriate module. Liaison with visits to work places are arranged as appropriate to ensure students are inducted, supported, safe and healthy in their placements. |

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| **19 Support for Students and their Learning** |
| * Induction programme * Programme/module handbooks * Library services <http://www.kent.ac.uk/library/> * Student Support <http://www.kent.ac.uk/studentsupport/> * Student Wellbeing [www.kent.ac.uk/studentwellbeing/](http://www.kent.ac.uk/studentwellbeing/) * Centre for English and World Languages <http://www.kent.ac.uk/cewl/index.html> * Student Learning Advisory Service <http://www.kent.ac.uk/uelt/about/slas.html> * PASS system <https://www.kent.ac.uk/teaching/qa/codes/taught/annexg.html> * Academic Adviser system <https://www.kent.ac.uk/teaching/advisers/index.html> * Kent Union [www.kentunion.co.uk/](http://www.kentunion.co.uk/) * Careers and Employability Services [www.kent.ac.uk/ces/](http://www.kent.ac.uk/ces/) * Counselling Service <https://www.kent.ac.uk/studentwellbeing/counselling/> * Information Services (computing and library services) [www.kent.ac.uk/is/](http://www.kent.ac.uk/is/) * Undergraduate student representation at School, Faculty and Institutional levels * International Recruitment Office <https://www.kent.ac.uk/internationalstudent/>; International Partnerships Office <https://www.kent.ac.uk/global/partnerships/> * Medical Centre <https://www.kent.ac.uk/studentwellbeing/medicalcentre.html>   **College-specific**:   * Health and safety * Moodle VLE * The programme will involve a number of practical aspects in the form of field trips, surveying activities, visits and experiments. Careful consideration in anticipation of the accommodation of the needs of students with any disabilities or specific personal requirements has been undertaken. It is possible to support students with disabilities on most activities, but specific requirements or needs will be negotiated on an individual basis and potential adjustments that may reasonably be required to the curriculum, modes of delivery or assessment methods will be made. Each module that involves any practical element will include a statement that outlines any disadvantages that cannot be catered for, in order to assist students in planning their learning. |

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| **20 Entry Profile**  The minimum age to study a degree programme at the university is normally at least 17 years old by 20 September in the year the programme begins. There is no upper age limit. |
| 20.1 **Entry Route**  For current information, please refer to the University prospectus |
| * Higher National Certificate or Diploma in Engineering or relevant subject * A GNVQ (Advanced) in Engineering or relevant subject * A level – 80 points (preferably a maths subject) * Access/Foundation Programmes: A satisfactory pass in an approved Access programme. Please check with the University beforehand that we will accept the Access syllabus you took. * Mature applicants: If you are a mature student without the traditional qualifications listed here, we ask you for proof of any recent study or experience of your ability to complete the programme successfully. * International applicants: In addition to the above requirements international students can also qualify with the following: School Certificates and Higher School Certificates awarded by a body approved by the University. Matriculation from an approved university, with a pass in English Language at GCSE/O Level or an equivalent level in an approved English language test. An examination pass accepted as equivalent to any of the above. In order to enter directly onto this programme you also need to demonstrate your proficiency in English, and we ask for one of the following: Average 6.5 in IELTS test, minimum 6.0 in reading and writing. Grade B in Cambridge Certificate of Proficiency in English. Grade A in Cambridge Advanced Certificate in English. Pass overall in the JMB/NEAB Test in English for Overseas Students, with at least B in Writing, Reading and Speaking modules. A TOEFL score of at least 580 (written test) or 237 (computer test). If you haven’t yet reached these standards the University runs a Foundation Programme for international students, which gives you a year’s academic and language training before you begin on your foundation degree. * Accreditation of prior learning (APL). We will consider any evidence of previous study and the ability to follow the proposed programme. |
| 20.2 **What does this programme have to offer?** |
| * A wide range of learning and assessment experiences, focusing on student-centred, varied and industrially relevant methods of teaching. * An excellent grounding in the wide ranging and underlying principles and applications of engineering, electronics systems and communications. * The development of a broad range of skills that are highly sought after by employers and which open up a wide range of careers to graduates within the diverse engineering industries * Work placements will be provided with local employers to offer a variety of experiences, both on site and office-based, covering a full range of construction vocations from design to production. * Development of skills for future work and study roles. * A small-group teaching structure. Typically will involve research-based activities, individual and group projects, practical applications and seminar presentations to compliment the lectures. * Successful completion could lead to employment with local or national companies as trainee manager, technician, CAD designer, design engineer etc. Students may also progress and gain part exemption towards an honours Degree and qualify for membership of relevant professional institutions. * High standard of learning resources including: * AutoCAD suites * Laptop trolley with laptops containing specialist engineering software * Engineering lab with industry standard equipment * Surveying school with up-to-date industry standard equipment * Science Soils and Hydraulics laboratory |
| 20.3 **Personal Profile** |
| The programme will be suitable for students who are:   * Working as, or keen to pursue a career as an engineering professional. * Interested in developing a wide range of skills appropriate to the chosen discipline and to apply these to personal, work-related and problem solving situations. * Willing to work as an effective and motivated team member. * Eager to learn, study, research and debate engineering topics in order to gain an understanding of all its relevant aspects; key concepts and principles; the context of the industry; professional standards and specialist knowledge. |

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| 21 **Methods for Evaluating and Enhancing the Quality and Standards of Teaching and Learning** |
| 21.1 **Mechanisms for review and evaluation of teaching, learning, assessment, the curriculum and outcome standards** |
| * Student module evaluations * Annual programme and module monitoring reports <http://www.kent.ac.uk/teaching/qa/codes/taught/annexe.html> * External Examiners system <http://www.kent.ac.uk/teaching/qa/codes/taught/annexk.html> * Periodic programme review <http://www.kent.ac.uk/teaching/qa/codes/taught/annexf.html> * Annual staff appraisal * Quality Assurance Framework <http://www.kent.ac.uk/teaching/qa/codes/index.html> * QAA Higher Education Review <http://www.qaa.ac.uk/InstitutionReports/types-of-review/higher-education-review/Pages/default.aspx>   **College-specific:**   * Observation system - Mid Kent College operates a system using trained observers to visit a department for a week and carry out observations along OFSTED lines and standards. Staff are given comprehensive feedback and graded on Teaching, Learning and Attainment. An action plan for the department is drawn up based upon the outcomes. * Internal Verification - a rigorous IV system using a structured procedure to check and agree assessment plans; standards of all assessments; assessment decisions. * External Verification - an External Adviser is appointed to each programme who will receive agendas and minutes of programme team meetings; be a member of any review panel; inspect samples of marked student work and submit an annual report to the University. |
| 21.2 **Committees with responsibility for monitoring and evaluating quality and standards** |
| * Staff-Student Liaison Committee * School Education Committee * Faculty Education Committee * Faculty Board * Education Board * Board of Examiners   **College-specific:**   * Programme Board meetings * Annual programme review * Divisional Board of Studies * Academic Board * Academic Standards Committee * Teaching and Learning Committee |
| 21.3 **Mechanisms for gaining student feedback on the quality of teaching and their learning experience** |
| * Student module evaluations * Staff-Student Liaison Committee * Student rep system (School, Faculty and Institutional level) * Annual NSS |
| 21.4 **Staff Development priorities include:** |
| * PGCHE requirements * HEA (associate) fellowship membership * Annual appraisals * Institutional Level Staff Development Programme * Academic Practice Provision (PGCHE, other development opportunities) * Professional body membership and requirements * Programme team meetings * Research seminars * Conferences * Study leave * Equality, Diversity and Inclusivity (EDI) awareness |

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| 22 **Indicators of Quality and Standards** |
| * Results of periodic programme review * QAA Higher Education Review 2015 * Annual External Examiner reports * Annual programme and module monitoring reports |
| 22.1 **The following reference points were used in creating these specifications:** |
| * QAA UK Quality Code for Higher Education <http://www.qaa.ac.uk/assuring-standards-and-quality> * QAA Benchmarking statement for Engineering (2015) * School and Faculty plan * University Plan <https://www.kent.ac.uk/about/plan/> and Learning and Teaching Strategies <https://www.kent.ac.uk/uelt/strategies/lta.html> * Staff research activities * Kent Inclusive Practices (<https://www.kent.ac.uk/studentsupport/accessibility/inclusive-practice.html>) |

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| 23 **Inclusive Programme Design** |
| The Collaborative Partner recognises and has embedded the expectations of current equality legislation, by ensuring that the programme is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services. |

**Module Mapping: FD Engineering (Compulsory Modules)**

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|  | **Stage 1** | | | | **Stage 2** | | | | |
|  | Analytical Methods (Engineering) | Science | Industrial Applications 1 (Engineering) | Personal Skills 1 – Communication & Research | Industrial Applications 2 | Industrial Applications 3 | Personal Skills 2 – Personal Development | Engineering Design | Management techniques |
| **Programme Learning outcomes**  **Knowledge and Understanding:** | | | | | | | | | |
| A1 | X |  |  |  |  |  |  | X |  |
| A2 | X |  |  |  |  |  |  | X |  |
| A3 |  | X |  |  |  |  |  |  |  |
| A4 |  |  |  |  |  |  |  | X |  |
| A5 |  |  |  |  |  |  |  | X | X |
| A6 |  |  | X |  | X | X |  | X |  |
| A7 |  |  |  |  |  |  |  |  | X |
| A9 |  |  |  |  |  |  |  |  | X |
| A10 |  |  | X |  | X | X |  |  |  |
| A11 | X | X | X |  | X | X |  | X |  |
| **Intellectual Skills:** | | | | | | | | | |
| B1 | X | X | X | X | X | X | X | X |  |
| B2 |  |  | X |  | X | X |  |  |  |
| B3 | X |  |  |  |  |  |  | X |  |
| B4 |  |  | X |  | X | X |  |  |  |
| B5 |  |  |  |  |  |  |  | X |  |
| B6 |  |  |  |  |  |  |  | X | X |
| B7 |  |  | X |  | X | X |  |  |  |
| B8 |  |  |  |  |  |  |  | X |  |
| **Subject-specific Skills:** | | | | | | | | | |
| C1 |  |  | X |  | X | X |  |  |  |
| C2 | X | X |  |  |  |  |  | X |  |
| C3 |  |  |  |  |  |  |  | X | X |
| C4 |  |  |  |  |  |  |  | X |  |
| C5 |  |  |  |  |  |  |  | X |  |
| C6 |  |  | X |  | X | X |  |  |  |
| **Transferable Skills:** | | | | | | | | | |
| D1 |  |  | X | X | X | X | X |  |  |
| D2 |  |  | X | X | X | X | X |  |  |
| D3 |  |  | X | X | X | X | X |  |  |
| D4 |  |  |  |  |  | X | X |  |  |
| D5 | X | X | X | X |  |  | X |  |  |
| D6 | X | X | X | X |  | X | X | X | X |
| D7 |  |  |  |  |  | X | X | X | X |