**Template C4**

Kingston University London

# Programme Specification

## Title of Course: *FdEng Applied Aircraft Engineering (on-line)*

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| **Date first produced** | 02/08/2023 |
| **Date last revised** | 27/08/2024 |
| **Date of implementation of current version** | 01/08/2024 |
| **Version number** | 4 |
| **Faculty** | Faculty of Engineering, Computing and the Environment |
| **School** | School of Engineering |
| **Department** | Department of Aerospace and Aircraft Engineering |
| **Delivery Institution** | |

This Programme Specification is designed for prospective students, current students, academic staff and employers. It provides a concise summary of the main features of the programme and the intended learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if they take full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes and content of each modules can be found in the course VLE site and in individual Module Descriptors.

## SECTION 1: GENERAL INFORMATION

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|---|---|
| **Award(s) and Title(s):**<br>***Up to 10 pathways*** | FdEng Applied Aircraft Engineering (on-line) |
| **Intermediate Awards(s) and Title(s):**<br>***There are 4 Intermediate awards for each pathway*** | |
| **Course Code**<br>***For each pathway and mode of delivery*** | UPAAE1AAE01 |
| **UCAS code**<br>***For each pathway*** | 2H60 |

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| **RQF Level for the Final Award:** | |
| **Awarding Institution:** | Kingston University |
| **Teaching Institution:** | |
| **Location:** | Other (including cross KU site delivery) |
| **Language of Delivery:** | English |
| **Modes of Delivery:** | Part-time |
| **Available as:** | Full field |
| **Minimum period of registration:** | Part-time - 2 |
| **Maximum period of registration:** | Part-time - 4 |
| **Entry Requirements:** | The minimum entry requirements are successful completion of a CAT B licence training course and have successfully passed the approved examinations or equivalent from the Military. Active students on a CAA/EASA licence course with a pass in the majority of their modules, will also be considered on an individual basis. |
| **Programme Accredited by:** | This programme is not accredited |
| **QAA Subject Benchmark Statements:** | Characteristics Statement Foundation Degree February 2020 |
| **Approved Variants:** | n/a |
| **Is this Higher or Degree Apprenticeship course?** | |

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| ***For Higher or Degree Apprenticeship proposals only*** |

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| **Higher or Degree Apprenticeship standard:** | n/a |
| **Recruitment, Selection and Admission process:** | n/a |
| **End Point Assessment Organisation(s):** | n/a |

## SECTION 2: THE COURSE

### A. Aims of the Course

The Foundation Degree (FD) in Applied Aircraft Engineering is a part-time online programme. The course is designed to develop the leadership tools, skills and qualifications required to enable aircraft maintenance engineers to progress into leadership and management positions. One of the benefits of this part-time programme is that it gives access to Higher Education to working professionals that cannot afford two years of full-time study.
The students will have different levels of leadership experience from different organisations. Participation in the course provides an opportunity to work with colleagues from different organisations and with varying backgrounds and managerial experience to develop their own managerial skills and style as well as building community and networks. The sharing of their experience through working together on the course will widen their organisational and leadership knowledge.

The additional knowledge, skills and understanding required to complete the Foundation Degree will be acquired through the completion of three modules delivered by Kingston University. The AE5302 and AE5300 modules will be taught through a series of online sessions, activities, and resources. In the case of AE5310, it will be based on an online portfolio developed throughout the programme.

Successful completion of this programme enables the student to progress to the final year of the BSc (Hons) Aircraft Engineering top-up programme. This course is accredited by the Royal Aeronautical Society (RAeS) as meeting the academic requirement for registration as an Incorporated Engineer. After the Foundation Degree programme has been validated, it will be presented to the RAeS for their approval.
The programme adheres to the Kingston Academic Framework Curriculum Design Principles. The modules are designed in a holistic way to align with the programme learning outcomes. A student-centred learning, teaching and assessment strategy has been designed with particular attention paid to the needs of part-time, online students.
The aims of the programme are to:

- provide formal academic recognition to students for their RPL and enable them to access the top-up in Aircraft Engineering which will lead to an accredited qualification at honours degree level.
- provide students with the opportunity to develop their written and oral communication skills.
- enable aircraft maintenance engineers to develop the skills, tools and qualifications required by them to progress into leadership and management positions.
- develop the individual's confidence, competence and leadership in aircraft maintenance by reflection on and evaluation of their practice.
- prepare students for continuous professional development by encouraging the use of personal development plans and introducing them to the Royal Aeronautical Society.

### B. Intended Learning Outcomes

The programme provides opportunities for students, who have demonstrated the requisite knowledge of aircraft systems and maintenance processes, to develop the leadership skills, tools and qualification to progress into and within management/supervisory positions in the aircraft maintenance field. These skills include communication – oral and written, mathematical, financial, teamwork and project management.
The programme introduces the students to Business Ethics, Corporate and Social Responsibility (CSR), Environment, Social, Governance ESG and Sustainability.
The programme develops the students' ability to become reflective professionals.
The programme gives students the opportunity to identify the range of key skills they have developed in the workplace and create a personal development plan based on those skills.

The programme learning outcomes are the high-level learning outcomes that will have been achieved by all students receiving this award. They must align to the levels set out in the 'Sector Recognised Standards in England' (OFS 2022).

| Programme Learning Outcomes | | | | | |
|---|---|---|---|---|---|
| | **Knowledge and Understanding**<br><br>On completion of the course students will be able to: | | **Intellectual Skills**<br><br>On completion of the course students will be able to | | **Subject Practical Skills**<br><br>On completion of the course students will be able to |
| A1 | Demonstrate their knowledge and understanding of the essential facts, concepts, theories and principles that underpin both engineering in general and aircraft engineering in particular | B1 | Analyse the operation of aircraft systems and equipment particular to the trade for which they have studied, to carry out fault diagnosis and identification | C1 | Work effectively and safely in an aircraft maintenance environment, whilst having due regard for the rules and regulations under which they must work |
| A2 | Meet the knowledge requirements specified in EASA Part 66 for the category of EASA licence/CAA or equivalent for which they have been studying | B2 | Provide evidence of their analytical and evaluative capabilities | C2 | Perform scheduled and unscheduled maintenance, fault diagnosis and rectification and serviceability testing on complex aircraft systems particular to the trade for which they have studied |
| A3 | Demonstrate an understanding of the responsibilities and legal obligations of licensed aircraft maintenance engineers and the effects of them exercising their engineering judgement | B3 | Assess the implications of their actions in relation to aircraft maintenance activities | C3 | Use tools and equipment found in a typical aircraft maintenance environment and to accurately follow verbal and written instructions |
| A4 | Use typical aircraft manuals and documentation correctly and effectively | B4 | Reflect on their learning, identify strengths and weaknesses, set targets and develop action plans to meet them, and prioritise | C4 | adopt ‘good working practices’ by being able to select and follow appropriate and approved methods, procedures and processes |
| A5 | Demonstrate an understanding of the need for ensuring a clean working environment, to follow all safety precautions with regard to self, equipment and aircraft and to have a responsible attitude in | | | C5 | Select, extract and collate information from a range of resources and present information in a style appropriate to purpose; including through presentation |

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| | respect to flight safety and airworthiness of aircraft | | | | |
| | | | | C6 | Use a range of ICT resources for communication and research, to retrieve and store information and data, and to produce documents incorporating different types of information |

In addition to the programme learning outcomes, the programme of study defined in this programme specification will allow students to develop the following range of Graduate Attributes:

1. Creative Problem Solving
2. Digital Competency
3. Enterprise
4. Questioning Mindset
5. Adaptability
6. Empathy
7. Collaboration
8. Resilience
9. Self-Awareness

**C. Outline Programme Structure**

This programme is offered in part-time online mode and leads to the award of a Foundation Degree. The programme recognizes the learning required to pass a maintenance engineer's licence maximum allowable RPL of 150 credits so further RPL is not possible.

**E1. Professional and Statutory Regulatory Bodies**

Successful completion of this programme enables the student to progress to the final year of the BSc (Hons) Aircraft Engineering top up programme which is accredited by the Royal Aeronautical Society as meeting the academic requirement for registration as an Incorporated Engineer. After the Foundation Degree programme has been validated, it will be presented to the Royal Aeronautical Society for their approval as an allowed route to the BSc (Hons) Aircraft Engineering.

**E2. Work-based learning, including sandwich programmes**

This programme is only available in part time mode, to those actively working as maintenance engineers. It allows students to reflect upon their own personal experience of working in an applied setting, to focus on aspects of this experience that they can clearly relate to theoretical concepts and to evaluate the relationship between theory and practice.

**E3. Outline Programme Structure**

This programme consists of 240 credits, 120 at level 4 and 120 at level 5. 90 credits at level 4 and 60 credits at level 5 will be granted by RPL for students that have successfully passed all the EASA B1 or B2 examinations. There will be three additional modules; one level 4 module worth 30 credits and two level 5 modules worth 30 credits each.

All students will be provided with the University regulations and specific additions that are sometimes required for accreditation by outside bodies (e.g. professional or statutory bodies that confer professional accreditation). Full details of each module will be provided in module descriptors and student module guides.

## FdEng Applied Aircraft Engineering (on-line)

| Level 4 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **FdEng Applied Aircraft Engineering (on-line)** | | | | | | | |
| **Core modules** | **Module code** | **Credit Value** | **Level** | **Teaching Block** | **Pre-requisites** | **Full Time** | **Part Time** |
| Applied Engineering Analysis and Communication | AE5302 | 30 | 4 | TY13 | | | 1 |
| **Optional Modules** | | | | | | | |

Progression to Level 5

COMPLETION OF ALL MODULES

| Level 5 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **FdEng Applied Aircraft Engineering (on-line)** | | | | | | | |
| **Core modules** | **Module code** | **Credit Value** | **Level** | **Teaching Block** | **Pre-requisites** | **Full Time** | **Part Time** |
| Aircraft Maintenance Leadership | AE5300 | 30 | 5 | 1 AND 2 | | | 2 |
| Professional Development | AE5310 | 30 | 5 | 1 AND 2 | | | 2 |
| **Optional Modules** | | | | | | | |

Progression to Level 6

N/A

Level 6 requires the completion of

N/A

Level 7 information

N/A

### D. Principles of Teaching, Learning and Assessment

This programme is designed to support the development of those taking on leadership roles within the aircraft maintenance function within an airline or aircraft maintenance company. The students on the course will have already undertaken the complete set of EASA B licence or equivalent modules and have thus demonstrated the requisite knowledge of aircraft systems and maintenance processes. The focus of this programme is on developing analytical skills to undertake degree level study and management skills to take on supervisory roles. It also gives students the opportunity to identify the range of key skills they have developed in the workplace.

This is a part time distance learning programme and each of the taught modules has 35 hours of online taught time in small groups. Individual mentoring and tutorial support is also available to support the programme. One of the benefits of this part-time programme is that it gives access to Higher Education to those that cannot afford two years of full-time study.

The assessment strategy is primarily focussed on Key Skills since most of the knowledge element has already been assessed as part of the EASA/Civil Aviation modules. This is in keeping with the holistic approach to assessment embodied in the Kingston Academic Framework.

## E. Support for Students and their Learning

Students are supported by:

- An induction period at the beginning of the programme which includes briefings on the programme; university computer-based resources and university rules, regulations and procedures.
- A Course Director and personal tutor.
- A Module Leader for each module who is responsible for managing the module and ensuring the coherence of the material and learning, and the fairness of the assessment.
- A designated programme administrator.
- Staff Student Consultative Committee.
- **Canvas** – the university's on-line virtual learning environment (VLE), and delivery through MS Teams
- Learning Resource Centres that provide support for academic skills.
- Disabled student support
- The Students' Union

Although this programme is entirely delivered online, all students will be assigned a personal tutor that will remain with them throughout the programme. The personal tutor will advise the students on the development of their Personal Development Portfolio and also on their taught modules. Typically, there will be 10 hours of personal contact over the duration of the programme, either face to face or by electronic communication.
Support with Mathematics is also available through the university Maths Aid scheme. Arrangements have been made for students to access this remotely.

## F. Ensuring and Enhancing the Quality of the Course

The University has several methods for evaluating and improving the quality and standards of its provision. These include:

- External examiners who review work, attend assessment boards and report on their findings.
- Bi-annual boards of study where the operation of the course is considered. A student representative from each intake of the programme is invited to attend.
- An annual review and development process.
- Periodic reviews undertaken at subject level.
- Student feedback through end of module evaluation questionnaires and Staff Student Consultative Committee meetings.
- Moderation and feedback policies.

In addition, the programme will be submitted to the Royal Aeronautical Society as providing a route to the BSc (Hons) in Aircraft Engineering. The BSc(Hons) is accredited by the Royal Aeronautical Society as meeting the requirements for IEng registration. To be accredited, a programme must satisfy the Engineering Council's and the Society's requirements. The process, carried out by a panel from the Society, involves:

- An in-depth review of all programme documentation.
- A review of marketing material; the student selection and admission policies and processes, and the progression and award statistics.
- Visits to all delivery sites to assess the learning environment and review resources.
- Meetings with staff involved in the delivery of the programme and private meetings with students on it.
- Confirmation that the programme satisfies the UK Standard for Professional Engineering Competence (UK-SPEC) general and specific learning outcomes.

## G. Employability and work-based learning

Successful completion of the programme will make the students more effective in their role and also enable them to progress to an honours degree.

AE5300 is designed to develop in the students the financial and managerial/leadership skills to progress into supervisory managerial role in the aircraft maintenance sector.

AE5310 is designed to develop in students the ability to recognise their own skills and take responsibility for and plan to develop these. This enables students to develop into reflective manager so critical in the workplace.

### *Work-based learning, including sandwich courses and higher or degree apprenticeships*

N/A

## H. Other sources of information that you may wish to consult

Engineering subject benchmark:
https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/sbs-business-management-15.pdf?sfvrsn=c7e1f781_6
Professional bodies:
www.aerosociety.com/ www.imeche.org/
The School of Aerospace and Aircraft Engineering website:
http://sec.kingston.ac.uk/about-SEC/schools/aerospace-and-aircraft-engineering/
EASA. The consolidated version of Regulation (EC) No 2042/2003 is available from the EASA website on page: https://www.easa.europa.eu/regulations/continuing-airworthiness-regulations.php. Annex III (Part-66), Appendix I of this document contains the EASA syllabuses (Basic Knowledge Requirements) for EASA Aircraft Maintenance Licenses. Annex II (Part-147) details the requirements that must be satisfied in order to be granted approval to conduct EASA approved training.

## I. Development of Course Learning Outcomes in Modules

This table maps where course learning outcomes are **summatively** assessed across the modules for this course. It provides an aid to academic staff in understanding how individual modules contribute to the course aims, a means to help students monitor their own learning, personal and professional development as the course progresses and a checklist for quality assurance purposes.

| Module Code | | Level 4 | Level 5 | |
|---|---|---|---|---|
| | | AE5302 | AE5300 | AE5310 |
| Knowledge & Understanding | A1 | | | |
| | A2 | | | |
| | A3 | | | |
| | A4 | | | |
| | A5 | | | |
| Intellectual Skills | B1 | | | |
| | B2 | | | |
| | B3 | | | |
| | B4 | | | |
| Practical Skills | C1 | | | |
| | C2 | | | |
| | C3 | | | |
| | C4 | | | |
| | C5 | | | |
| | C6 | | | |

**Students will be provided with formative assessment opportunities throughout the course to practise and develop their proficiency in the range of assessment methods utilised.**