Template C4

Kingston University London

Programme Specification

Title of Course: *BEng (Hons) Aircraft Engineering*

Date first produced	12/12/2013
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Version number	17
Faculty	Faculty of Engineering, Computing and the Environment
Cross-disciplinary	
School	School of Engineering
Department	Department of Aerospace and Aircraft Engineering
Delivery Institution	Cardiff and Vale College

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

Award(s) and Title(s):	BEng (Hons) Aircraft Engineering
Exit Award(s) and Title(s):	CertHE PgCert
Course Code *For each pathway and mode of delivery*	UFAIE1AIE20
UCAS code *For each pathway*	4Q58Site codes:V - Cardiff and Vale College (ICAT)

Awarding Institution:	Kingston University
Teaching Institution:	Cardiff and Vale College
Location:	Cardiff and Vale College (ICAT)
Language of Delivery:	English (at all delivery sites)
Delivery mode:	Primarily campus based (up to 20% of scheduled L&T hours delivered online)
Learning mode(s):	Full-time
Minimum period of registration:	Full-time - 3
Maximum period of registration:	Full-time - 6
Entry requirements	Entry Requirements: The minimum standard entry qualifications for the programme are: • 96 UCAS tariff points from three A-levels to include Mathematics and Science (General Studies and native language A-levels are not accepted) • 96 UCAS tariff points from a BTEC Extended Diploma in an engineering subject) to include Further Mathematics for Engineering Technicians. BTECs in computing or technology subjects are not accepted.

	• HE access course with 60 credits at level 3 in an engineering subject. Plus: • Five GCSEs grade A*to C which must include English Language, Mathematics and a science or technology subject. Native language GCSEs, Key Skills Level 2 Communication and Application of Numbers, and IGCSE English as a Second Language are not accepted. Applicants with military and/or civil aircraft maintenance engineering experience or who have completed vocational aircraft engineering courses will be considered on an individual basis. A minimum International English Language Testing System (IELTS) score of 6.0 (min 5.5 in Speaking, Writing, Listening and Reading) or equivalent is required for those for whom English is not their first language.
Regulated by	The University and its courses are regulated by the Office for Students.
Programme Accredited by:	RAeS
Approved Variants:	None.
Is this Higher or Degree Apprenticeship course?	No

SECTION 2: THE COURSE

A. Aims of the Course

The general aims of the course are:

- Produce aircraft maintenance engineering graduates who are equipped with the technical knowledge, understanding and skills; and the personal and professional qualities to obtain employment and succeed in the aircraft maintenance industry.
- Provide students with the academic and professional knowledge and skills that will enable them to manage their own personal and professional development when they leave the university; and to encourage them to be proactive in the furtherance of their careers and development of themselves.
- Produce the aircraft maintenance engineering managers of the future; managers who will look on Kingston University as having played a major part in their success.
- To prepare graduates with an ability to solve design problems and the technical skills needed to realise these solutions in the fields of aircraft operation and maintenance.
- To align with the current edition of the UK Standard for Professional Engineering Competence (UK-SPEC) and to meet the academic requirements for Incorporated Engineering (IEng) Membership of the Royal Aeronautical Society (RAes) by ensuring that the course is accredited by that body.
- To furnish graduates with a firm grasp of sustainability, ethics, risks, legal obligations and economics.

B. Programme Learning Outcomes

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

Programme Learning Outcomes					
	Knowledge and Understanding On completion of the course students will be able to:		**Intellectual Skills** On completion of the course students will be able to		**Subject Practical Skills** On completion of the course students will be able to
A1	Apply their knowledge and understanding of essential facts, concepts, theories and principles associated with aircraft engineering and the underpinning mathematics and science.	B1	Recognise, evaluate and analyse problems; identify and investigate possible solutions and make sound decisions regarding the solution to adopt and/or the course of action to be taken.	C1	Perform aircraft maintenance activities correctly and safely, identify defects in aircraft structures, systems, equipment, components and hardware; and determine the best solution and/or course of action to be taken.
A2	Demonstrate a knowledge and understanding of the subject matter of the European Aviation Safety Agency (EASA) Part-66 module syllabuses for the Category B1.1 aircraft maintenance engineering licence.	B2	Locate, collect, collate, interpret and critically evaluate arguments, assumptions, abstract concepts and data (that may be incomplete), and use it to make judgements, and to frame appropriate questions to help achieve a solution.	C2	Investigate and analyse the operation of aircraft equipment and systems to determine and/or confirm serviceability and for defect diagnosis.
A3	Demonstrate a clear understanding of the legal obligations pertaining to licensed aircraft maintenance engineers, the rules and regulations under which they must work and the need to always consider flight safety.	B3	Communicate clearly and succinctly orally, graphically and in writing having due regard for the receiving audience and intellectual property rights.	C3	Make effective use of aircraft maintenance manuals and other industry related publications and complete documentation associated with the maintenance of aircraft and airworthiness.
A4	Discuss the topics of ethics and sustainability in relation to	B4	Manage their own personal and professional development by	C4	Use a range of office, engineering and aircraft industry

	aircraft maintenance engineering and the decisions made by licensed engineers.		identifying gaps and/or shortfalls in their knowledge, understanding and skills and taking the necessary action to rectify it.		related IT equipment and software confidently and effectively.
A5	Apply business methods to assess the economic and financial aspects of air transport and/or engineering projects.			C5	Work independently or as part of a team to initiate, investigate, plan, manage and drive projects to a successful conclusion and produce the associated documentation (proposals, plans, reports, presentations).

C. Future Skills Graduate Attributes

In addition to the programme learning outcomes, the programme of study defined in this programme specification will engage students in developing their Future Skills Graduate Attributes:

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

D. Outline Programme Structure

Students complete all three years of the programme at an EASA/CAA part-147 approved training organisation.
The course is offered in full-time mode because of the desire to maintain the link with aviation authority approved aircraft maintenance engineering training and the benefits this affords students who successfully complete the course.

Entry to the programme is at year one with direct entry to year two only being considered under exceptional circumstances. Those wishing to obtain the benefits of completing an aviation authority approved course must complete the full programme irrespective of previous experience and or qualifications.

Full details of each module will be provided in module descriptors and student module guides.

Note: As per GR5 within the general regulations, the University aims to ensure that all option modules listed below are delivered. However, for various reasons, such as demand, the availability of option modules may vary from year to year or between teaching blocks. The University will notify students by email as soon as these circumstances arise.

BEng (Hons) Aircraft Engineering

Level 4							
BEng (Hons) Aircraft Engineering							
Core modules	**Module code**	**Credit Value**	**Level**	**Teaching Block**	**Pre-requisites**	**Full Time**	**Part Time**
Aerodynamics and Aircraft	AE4003	30	4	Year long		1	

Electronic and Digital Systems							
Electrical Engineering Fundamentals	AE4002	30	4	Year long		1	
Mathematics and Physics for Practitioner Engineers	AE4001	30	4	Year long		1	
Navigate with Professional Practice	AE4016	30	4	Year Long	None	1	

Exit Awards at Level 4

Students exiting the course at this point who have successfully completed 120 credits at level 4 or above are eligible for the award of Certificate of Higher Education.

Level 5							
BEng (Hons) Aircraft Engineering							
Core modules	**Module code**	**Credit Value**	**Level**	**Teaching Block**	**Pre-requisites**	**Full Time**	**Part Time**
Aircraft Materials, Hardware and Maintenance	AE5001	30	5	Year Long		2	
Aircraft Structures and Systems	AE5007	30	5	Year Long		2	
Explore with Professional Practice	AE5006	30	5	YEAR LONG		2	
Practical Engineering Skills and CAD	AE5003	30	5	Year Long		2	

Exit Awards at Level 5

Students exiting the programme at this point who have successfully completed 120 credits at level 5 or above are eligible for the award of Diploma of Higher Education.

Level 6
BEng (Hons) Aircraft Engineering

Core modules	Module code	Credit Value	Level	Teaching Block	Pre-requisites	Full Time	Part Time
Air Transport Economics	AE6601	30	6	Year Long		3	
Aircraft Maintenance Operations (Group Design Solution)	AE6025	15	6	TB2		3	
Apply with Aircraft Maintenance	AE6005	15	6	TB1		3	
Individual Project – I (Ref: IEng)	AE6017	30	6	Year Long		3	
Turbine Engines, Propellers and Thermodynamics	AE6003	30	6	Year Long		3	

Exit Awards at Level 6

Students exiting the programme without completing the full 120 credits but have successfully completed 60 credits at level 6 or above are eligible for the award of an Ordinary Degree.

E. Teaching, Learning and Assessment

This course uses a range of teaching and assessment methods which have been designed to support students' learning and achievement of the learning outcomes. The course has been developed with reference to the Kingston University Academic Framework which sets out core principles relating to Course and Credit Structure (including Module delivery Structure and Pattern, and Learning Hours and Learning Formats); Curriculum Design (inclusion of Learning Design Principles and Inclusive Curriculum); and Future Skills.

Teaching and Learning on the course consist of Scheduled Learning and Teaching and Guided Independent Study (self-managed time). Scheduled Learning and Teaching includes the following, and the format for each module is set out in the module specification:

- Laboratory Sessions
- Lectures
- Seminars
- Tutorials
- Workshops

- Placements

Guidance for students on the use of independent study time is communicated through the 'Succeed in your module' section on the Canvas Virtual Learning Environment and through other communications during the course.

In addition to the core Scheduled Learning and Teaching activities for the course, the University may offer students additional optional opportunities for learning. Examples of these include Study abroad and Work-based learning.

The course will provide students with the opportunity to develop their knowledge and skills relating to at least two United Nations Sustainable Development Goals (UN SDGs). We are committed to empowering students with the knowledge, skills and opportunities to understand and address the UN SDGs: each course is thus also required to prepare students for at least two of the SDGs (not including Quality Education, which all courses must deliver).

F. Support for Students and their Learning

Students are supported through a range of services that provide academic and wider support. These include:

- A Module Leader for each module
- A Course Leader to help students understand the course structure
- Personal Tutors to provide academic and personal support
- Technical support to advise students on IT and the use of software
- Student Voice Committee – to ensure the views of students are heard
- Canvas – Kingston University's Virtual Learning Environment
- Student support facilities that can provide advice on issues such as finance, regulations, legal matters, accommodation, international student support
- Disabled student support
- Student Development and Graduate Success
- A dedicated Undergraduate Course Administrator
- An induction programme and study skills sessions at the start of each academic year
- Academic Success Centre is a one-to-one drop-in Study Skills session for students every weekday. Help is available on a range of academic skills from writing reports, and note-taking, to exam revision, referencing, programming and mathematical skills.
- VLE – a versatile on-line interactive intranet and learning environment accessible both on-site and remotely.
- Course Representative scheme
- Talent A University Careers and Employability Service
- Comprehensive University support systems including the provision of advice on finance, regulations, legal matters, accommodation, international student support, disability and equality support.

G. Ensuring and Enhancing the Quality of the Course

The University has policies and procedures for evaluating and improving the quality and standards of its provision.

These include:

- Continuous Monitoring of courses through the Kingston Course Enhancement Programme (KCEP)
- Student evaluation including Module Evaluation Questionnaires (MEQs), the National Student Survey (NSS)
- Internal and external moderation of graded assignments
- External examiners
- Boards of study with student representation
- Annual review and development
- Periodic review undertaken at the subject level
- Student evaluation

H. External Reference Points

External reference points which have informed the design of the course. These could include:

- PSRB standards
- QAA Subject benchmarks
- Other subject or industry standards

I. Development of Course Learning Outcomes in Modules

This table maps where programme learning outcomes are **summatively** assessed across the **core** 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				Level 6				
		AE4003	AE4002	AE4001	AE4016	AE5006	AE5007	AE5001	AE5003	AE6025	AE6005	AE6017	AE6003	AE6601
Knowledge &	A1	S			S	S								

Understanding	A2				S								
	A3											S	
	A4												
	A5												
Intellectual Skills	B1											S	
	B2											S	S
	B3						S					S	S
	B4						S						S
Practical Skills	C1												S
	C2				S		S						
	C3	S											
	C4											S	
	C5											S	

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

Additional Information