Integrated Masters Programme Specification

Session	2025/26	**Last Modified**	23/03/2025
Named Award Title	MEng (Hons) Aircraft Engineering		
Award Title for Each Award	MEng (Hons) Aircraft Engineering BEng (Hons) Aircraft Engineering BEng Aircraft Engineering BSc (Hons) Aircraft Engineering BSc Aircraft Engineering Dip HE Engineering Cert HE Engineering Science		
Date of Approval	February 2025		
Details of Cohort Applies to	All students from session 2025-2026		
Awarding Institution	University of the West of Scotland	**Teaching Institution(s)**	University of the West of Scotland
Language of Instruction & Examination		English	
Award Accredited by		Institution of Mechanical Engineers	
Maximum Period of Registration		Full-time 6 Years	
Duration of Study			
Full-time	5 Years	**Part-time**	10 Years
Placement (compulsory)	No		
Mode of Study	☒ Full-time ☒ Part-time		
Campus	☐ Ayr ☐ Dumfries	☐ Lanarkshire ☐ London ☒ Paisley	☐ Online / Distance Learning ☐ Other (specify)
School	**Computing, Engineering and Physical Sciences**		
Divisional Programme Board	**Engineering Physical Sciences**		

Programme Leader	B Rakhshani

Admissions Criteria
Candidates must be able to satisfy the general admission requirements of the University of the West of Scotland as specified in Chapter 2 of the University Regulatory Framework together with the following programme requirements:

SQA National Qualifications:

Standard Entry Requirements: ABBB (114 UCAS Tariff points) including Mathematics and Physics, plus SQA National (Grade B, or above) / Intermediate 2 (Grade B, or above) /Standard Grade (Credit) English

Or GCE
BBC (112 UCAS Tariff points) including Mathematics and Physics plus GCSEs in English Language or English Literature (Grade B / Grade 5 or 6)

Or SQA National Qualifications / Edexcel Foundation
An appropriate HNC/D award with the level of entry and/or credit awarded being subject to the content of the programme. All advanced entry will be considered on an individual basis.

Other Required Qualifications/Experience
Applicants may also be considered with other academic, vocational or professional qualifications deemed to be equivalent. We welcome applications from international students with equivalency of qualifications. Scholarships may be available on application.

Further desirable skills pre-application
N/A

General Overview
The Integrated Masters programme MEng (Hons) Aircraft Engineering is designed to develop the knowledge and skills for specialised and complex engineerign problems in the filed of aerospace and aircraft engineering. Solutions are built upon broader engineering concepts, and utilising new and existing technologies, through innovation, creativity and change. It extends beyond the outcomes of the BEng (Hons) Aircraft Engineering to provide a greater range and depth of specialist knowledge, within an authentic environment, as well as a broader and more general academic base. The programme provides a foundation for leadership and innovative engineering practice roles.
Graduates will possess the following defining characteristics. A broad and coherent body of knowledge including mathematics, applied sciences and engineering principles, and the ability to apply that knowledge to solve complex engineering problems and with a focus on industery needs. Graduates will be able to select and apply quantitative, computational, and design analysis techniques to design, deliver and evaluate innovative new products or services to meet defined industry/engineering needs using new or existing technologies.
The MEng (Hons) Aircraft Engineering programme is contextually aligned with the Engineering Council's AHEP4 Learning Outcomes as outlined below.
M1- Apply a comprehensive knowledge of mathematics, statistics, natural science and engineering principles to the solution of complex specific and broader aircraft engineering and broader engineering problems. Much of the knowledge is at the forefront of aircraft engineering and informed by a critical awareness of new aircraft engineering developments and the wider context of engineering.

M2- Formulate and analyse complex engineering problems to reach substantiated conclusions. This will involve evaluating available data using first principles of mathematics, statistics, natural science and engineering principles, and using engineering judgment to work with information that may be uncertain or incomplete, discussing the limitations of the techniques employed.
M3- Select and apply appropriate computational and analytical techniques to model complex problems, being aware of and discussing the limitations of the techniques employed.
M4- Select and critically evaluate a broad spectrum of technical literature and other sources of information to solve complex engineering problems.
M5- Design solutions for complex aircraft engineering problems that evidence some originality and meet a combination of societal, user, business and customer needs as appropriate. This will involve consideration of applicable health & safety, diversity, inclusion, cultural, societal, environmental and commercial matters, codes of practice and industry standards.
M6- Apply an integrated or systems approach to the solution of complex both aircraft engineering and general engineering problems.
M7- Evaluate the environmental and societal impact of solutions to complex problems (to include the entire life-cycle of a product or process) and minimise adverse impacts. This is of paramount importance to the challenges faced by the aircraft industry and therefore has significant emphasis for the programme.
M8- Identify and analyse ethical concerns and make reasoned ethical choices informed by professional codes of conduct.
M9- Use a risk management process to identify, evaluate and mitigate risks (the effects of uncertainty) associated with a particular project or activity.
M10- Adopt a holistic and proportionate approach to the mitigation of security risks.
M11- Adopt an inclusive approach to engineering practice and recognise the responsibilities, benefits and importance of supporting equality, diversity and inclusion.
M12- Use practical laboratory and workshop skills to investigate complex problems.
M13- Select and apply appropriate materials, equipment, engineering technologies and processes, recognising their limitations.
M14- Discuss the role of quality management systems and continuous improvement in the context of complex aircraft engineering problems.
M15- Apply knowledge of engineering management principles, commercial context, project aM16- Function effectively as an individual, and as a member or leader of a team. Evaluate effectiveness of own and team performance.
M17- Communicate effectively on complex engineering matters with technical and non-technical audiences, evaluating the effectiveness of the methods used.
M18- Plan and record self-learning and development as the foundation for lifelong learning/CPD
Graduates from this programme are equipped to enter careers in a variety of aircraft engineering sectors or to progress to further study. Graduates from this programme should find employment in the local, national and international aerospace industry and wider engineering sectors.
The teaching and learning methods employed by staff in the delivery of the module portfolio covers a wide range of established and some novel approaches. Lectures and tutorials form the basis for much of the teaching within engineering but 'flipped' classroom and online content, video recording of sessions is now found in all modules.
Extensive use is also made of laboratories, seminars, group work, independent learning and demonstrations. Synoptic learning is undertaken in a number of modules within the same level replicating how engineering problems are addressed within industry. One of the main objectives in this area is to keep teaching materials as interesting and as relevant as possible to ensure student enthusiasm for the subjects being presented. Staff make full use of all

technologies when delivering material to students including high quality notes, use of multimedia presentations and use of the internet/electronic technology.
The Engineering group has a policy of using small tutorial groups in key subject areas and either sub-divides cohorts into small groups or increase staff numbers in classes or laboratories. All modules are taught by subject experts with staff making use of materials and topics raised through their professional activities whether prior industrial experience, research KTP, and/or consultancy based. Many case studies and examples of applications are taken from live industrial situations. The School of Computing, Engineering and Physical Sciences has always taken a lead in the use of IT to either deliver material or to supplement and reinforce the traditional teaching and learning approaches. At the Paisley Campus Engineering has its own extensive networks to support all of the area's activity. Students have access to 100+ high specification PC workstations in state of the art air- conditioned laboratories dedicated specifically for Engineering students. Indeed, all modules are now supported electronically, providing notes, copies of lectures, models, sample simulations etc. A VLE (Virtual Learning Environment) is used by all staff as both a repository for material and a social learning platform and is used for online formative and summative assessment, assessment submissions and discussion forums. A variety of assessment methods are used throughout programmes. These range from class tests, laboratory reports, design assignments, individual and group presentations and formal open- book examinations. Both group project work and individual project work are incorporated into the curriculum so that students develop the learning skills associated with group and independent working as well as giving presentations on their work. Formative feedback and constructive comments are given to the student on their coursework submissions. Anonymous marking is undertaken, where possible. Mixtures of formative and summative methods are used in the assessment of student performance within the group. It is recognised that while most of the assessments are summative in nature formative assessment is also found in all modules, delivering timely and regular feedback. Assessment, wherever possible, follows real-world activities examination is required as part of the accreditation requirements however this follows an open-book approach providing time-bound, individually assessed, unfamiliar problems-assessing content and developing a number of important meta-skills. All modules have inherent tutorial activity with formative assessment providing concurrent feedback allowing implementable feed-forward.
The programme prepares students for a career in engineering and the content is guided and evaluated by the Engineering Councils Standard for Professional Engineering Competence and Commitment.
Meta-skills are embedded in the programme as is required by the Engineering Council and these include digital skills, creativity, critical thinking, innovation, and entrepreneurship and social enterprise.

Typical Delivery Method

On-campus lectures, tutorials and laboratories (practical and computer) with additional independent activity.

Any additional costs

None

Graduate Attributes, Employability & Personal Development Planning

Graduate Attributes
UWS' Graduate Attributes focus on academic, personal and professional skills and throughout the programmes that these skills develop graduates who are universally prepared,

work-ready and successful. The Aircraft Engineering programme provides opportunities throughout the levels to enable these skills to be developed and focussed appropriately. Aircraft Engineering knowledge is assembled throughout the programme and wherever possible digital literacy skills and ability to provide effective solutions is enhanced utilising industry standard appropriate technologies such as MATLAB, MATHCAD, CAD, FEA and CFD software.
Particularly, but not exclusively, in later years of the programme, critical analytical and inquiry skills are developed and used to solve industry related problems. Many of these are set in and constrained by consideration of aerospace regulatory body design specifications such as CS25.
Aerodynamic and structures design and analysis exercises are utilised where incisive and innovative solutions are required to be effectively presented as part of collaborative groups or as individual autonomous learning activities.
The programme promotes cultural awareness and emotional intelligence with a variety of group exercises developing resilient, ambitious and enterprising leadership qualities whilst ensuring that group members are emotionally and culturally aware and respectful communication and behaviours are the norm.
Commercial awareness is linked to aircraft design activities during the programme ensuring that costs associated with staff, materials, manufacture, in-service and decommissioning are considered when developing transformational/innovative solutions with commercial potential.
Ethical awareness and social responsibility is developed throughout and is formalised in 4th and 5th years during project studies where School/University ethical approval is sought if required.
Links to current University and programme research are promoted through the programme with opportunities for students to become involved in aspects of the research from the earliest opportunity either discretely or as part of an assessment.
UWS Graduate Attributes- https://www.uws.ac.uk/current-students/your-graduate-attributes/

Employability
The local aerospace market contains a number of international companies such as BAE Systems, Spirit AeroSystems United Technologies, British Airways, Woodward etc and the programme has been developed with feedback from those local companies. Such is the diversity of the work these companies undertake the skills the graduates gain from undertaking the programme are internationally transferrable.
The majority of the final year projects are offered in collaboration with these partner industries and this in tandem with short term placements at the end of third year with many of the local companies is providing graduate employment opportunities at the end of the students' studies.
The programme is also organised to allow part time entry allowing those in employment to undertake degree award on a day release manner and thereby supporting employers to increase qualification levels of their employees manageably.
Personal Development Planning
Across the programme of study, the Personal Development Planning (PDP) process gives the opportunity for engagement of students with a set of core activities, which include reflection on prior experience, personal attributes and goals; audits of skills and feedback on their development; opportunities and guidance on the recording of achievements; the identification/development of learning goals; opportunities to reflect on this material and to gain feedback; opportunities (and guidance) on presentation of evidence for different audiences and planning of future learning and career development (such as CVs); maintaining an effective PDP record.

Work Based Learning/Placement Details

A number of local employers are offering short term unpaid placements at the end of year 3 and this is leading to further opportunities for paid internships at the end of year 4.

Attendance and Engagement

In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.

For the purposes of this programme, academic engagement equates to the following:

Students are expected to attend all timetabled sessions and to engage with all formative and summative assessment elements of all the modules that are included in the programme specification as core modules as well as any optional module when applicable.

Equality and Diversity

The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code.

Aligned with the University's commitment to equality and diversity, this programme supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. The programme modules comply with University regulations and guidance on inclusive learning and teaching practice. Specialist assistive equipment, support provision and adjustment to assessment practice in accordance with the University's policies and regulations. (N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School).

Programme structures and requirements, SCQF level, term, module name and code, credits and awards (Chapter 1, Regulatory Framework)

Learning Outcomes

SCQF LEVEL 7 Learning Outcomes	
Knowledge and Understanding	
A1	Demonstrate a comprehensive knowledge and understanding of the key areas of aircraft engineering its underpinning natural science, mathematics, statistics and engineering principles with a critical awareness of new developments and the wider context of engineering.
A2	Demonstrate a knowledge and understanding of introductory principles and contexts with respect to multi- disciplinary aspects of aircraft engineering.
A3	Demonstrate a knowledge and understanding of the relevant materials, equipment and processes and technologies underpinning aircraft design.
A4	Demonstrate an understanding of the commercial context and sustainability of aircraft engineering activities.
A5	N/A
Practice - Applied Knowledge and Understanding	
B1	Demonstrate the formulation and analysis of complex problems with substantiated conclusions related to aircraft and other engineering problems. This will include dealing with uncertain and incomplete data and being able to discuss the limitations of techniques employed.
B2	Use practical laboratory and workshop skills to investigate complex problems.
B3	Select and critically evaluate technical literature and other sources of information to solve complex problems.
B4	Select and apply appropriate computational techniques, being aware of and discussing the limitations.
B5	Evaluate the environmental and societal impact of solutions to complex problems (to include the entire life- cycle of a product or process) and minimise adverse impacts.
Communication, ICT and Numeracy Skills	
C1	Develop an appropriate range of transferable skills in communication, the use of IT facilities and information retrieval.
C2	Use computer software relevant to aircraft engineering.
C3	Adopt a holistic and proportionate approach to the mitigation of security risks.
C4	Communicate effectively on complex engineering matters with technical and non-technical audiences.
C5	Select and apply appropriate computational and analytical techniques to model complex problems, discussing the limitations of the techniques employed.
Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Apply appropriate quantitative science and engineering tools to basic problems.
D2	Develop an appropriate range of transferable skills and apply these in problem solving.

D3	Apply an integrated or systems approach to the solution of complex problems.
D4	N/A
D5	N/A
Autonomy, Accountability and Working with Others	
E1	Adopt an inclusive approach to engineering practice and recognise the responsibilities, benefits and importance of supporting equality, diversity and inclusion
E2	Function effectively as an individual, and as a member or leader of a team. Evaluate effectiveness of own and team performance.
E3	Develop skills in planning self-learning and improving performance, as the foundation for PDP, lifelong learning and CPD.
E4	Demonstrate an understanding of the need for a high level of professional and ethical conduct in engineering.
E5	Identify and analyse ethical concerns and make reasoned ethical choices informed by professional codes of conduct.

Level 7 Modules

CORE

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
7	MATH07011	Applied Mathematics	20	☒	☐	☐	
7	ENGG07001	Engineering Mechanics	20	☒	☐	☐	
7	APPD07001	ASPIRE	20	☒	☐	☐	
7	ENGG07023	Introduction to Engineering	20	☐	☒	☐	
7	MATH07008	Python Fundamentals	20	☐	☒	☐	
7	ENGG07011	Aircraft Aerodynamics, Strucrures and Systems	20	☐	☒	☐	
Footnotes for Core Modules							

Level 7 Modules

OPTION

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
Footnotes for Option Modules							

Level 7
Criteria for Progression and Award
Please refer to UWS Regulatory Framework for related regulations

Progression

1. To progress from SCQF Level 7 to SCQF Level 8 on this programme, students are required to obtain 120 credits at SCQF Level 7 from the programme of modules identified above.
2. Regulation 3.13 refers to progression with credit deficit.
3. Students who fail one core module and have 'No further attempts' may be able to transfer and continue on the BSc (Hons) Aircraft Engineering programme.

Award

1. Students wishing to exit after SCQF Level 7 and who have achieved 120 credits at SCQF Level 7 or above, will be awarded a Certificate of Higher Education in Engineering Science.
2. Distinction will be awarded in line with University Regulations 3.25 and 3.26, no imported credit can be used.

SCQF LEVEL 8 Learning Outcomes	
Knowledge and Understanding	
A1	Demonstrate the role of quality management systems and continuous improvement in the context of complex problems.
A2	Demonstrate an extended knowledge of the different types and characteristics of engineering materials and manufacturing processes.
A3	Discuss the role of quality management systems and continuous improvement in the context of complex problems.
A4	Demonstrate a comprehensive knowledge and understanding of the key areas of aircraft engineering its underpinning natural science, mathematics, statistics and engineering principles with a critical awareness of new developments and the wider context of engineering.
A5	Demonstrate an understanding of the environmental and societal impact of solutions to complex problems (to include the entire life-cycle of a product or process) and minimise adverse impacts.
Practice - Applied Knowledge and Understanding	
B1	Discuss the role of quality management systems and continuous improvement in the context of complex problems.
B2	Evaluate the environmental and societal impact of solutions to complex problems (to include the entire life- cycle of a product or process) and minimise adverse impacts.
B3	Apply an integrated or systems approach to the solution of complex problems. Use practical laboratory and workshop skills to investigate complex problems. Select and apply appropriate materials, equipment, engineering technologies and processes, recognising their limitations.
B4	Design solutions for complex problems that evidence some originality and meet a combination of societal, user, business and customer needs as appropriate. This will involve consideration of applicable health & safety, diversity, inclusion, cultural, societal, environmental and commercial matters, codes of practice and industry standards.
B5	Demonstrate the formulation and analysis of complex problems with substantiated conclusions related to aircraft and other engineering problems. This will include dealing with uncertain and incomplete data and being able to discuss the limitations of techniques employed.
Communication, ICT and Numeracy Skills	
C1	Select and critically evaluate technical literature and other sources of information to solve complex problems.
C2	Demonstrate the ability to communicate engineering ideas and concepts through the use of presentation and application software
C3	Adopt a holistic and proportionate approach to the mitigation of security risks.
C4	Communicate effectively on complex engineering matters with technical and non-technical audiences, evaluating the effectiveness of the methods used.
C5	Select and apply appropriate computational and analytical techniques to model complex problems, discussing the limitations of the techniques employed.

Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Use appropriate quantitative science and engineering tools to the analysis of basic engineering problems.
D2	Demonstrate the ability to monitor, interpret and apply the results of analysis and modelling.
D3	Demonstrate the ability to apply basic quantitative methods relevant to aircraft engineering design problems.
D4	Demonstrate the ability to define a problem and identify constraints.
D5	Demonstrate the ability to use appropriate codes of practice and industry standards.
Autonomy, Accountability and Working with Others	
E1	Develop an enhanced level of transferable skills that will be of value in working with others in more complex situations.
E2	Recognise the role and contribution of team members when carrying out and evaluating tasks.
E3	Function effectively as an individual, and as a member or leader of a team. Evaluate effectiveness of own and team performance.
E4	Plan and record self-learning and development as the foundation for lifelong learning/CPD.
E5	N/A

Level 8 Modules

CORE

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
9	ENGG09056	Computer Aided Design 1	20	☐	☒	☐	
8	ENGG08028	Fluid and Aerodynamics	20	☒	☐	☐	
8	MATH08001	Mathematics for Design	20	☒	☐	☐	
8	ENGG08017	Design Analysis 1	20	☐	☒	☐	
8	ENGG08001	Materials and Contemporary Manufacturing	20	☒	☐	☐	
8	ENGG08029	Aerothermodynamics and Aircraft Propulsion	20	☐	☒	☐	
Footnotes for Core Modules							

Level 8 Modules

OPTION

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
				☐	☐	☐	
				☐	☐	☐	

				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
Footnotes for Option Modules							

Level 8
Criteria for Progression and Award
Please refer to UWS Regulatory Framework for related regulations

Progression

1. To progress from SCQF Level 8 to SCQF Level 9 on this programme,

students are required to obtain 120 credits at SCQF Level 8 from the programme of modules identified above and have achieved >=60% average in either SCQF Level 7 or 8. Students who have not achieved this progression criteria will be transferred to the BEng (Hons) Aircraft Engineering programme.

2. Regulation 3.13 refers to progression with credit deficit.

3. Students who fail one core module and have 'No further attempts' may be able to transfer and continue on the BSc (Hons) Aircraft Engineering programme.

Award

1. Students wishing to exit after SCQF Level 8 and who have achieved 240 credits, of which a minimum of 100 credits are at SCQF Level 8 or above, will be awarded a Diploma of Higher Education in Engineering.

2. Distinction will be awarded in line with University Regulations 3.25 and 3.26, no imported credit can be used.

SCQF LEVEL 9 Learning Outcomes (Maximum of 5 per heading)	
Knowledge and Understanding	
A1	Demonstrate a comprehensive knowledge and understanding of the key areas of aircraft engineering its underpinning natural science, mathematics, statistics and engineering principles with a critical awareness of new developments and the wider context of engineering.
A2	Knowledge and understanding of mathematical principles and techniques necessary to underpin their education in aircraft engineering and to enable them to apply mathematical methods, tools and notation in the analysis and solution of aircraft engineering problems.
A3	Knowledge and understanding of the characteristics of engineering materials and components and the ability to apply them to the analysis of key engineering components.
A4	Knowledge and understanding of the principles of IT and specialist software relevant to engineering and design, particularly CAE and the ability to use such software to the analysis and design of components and systems.
A5	Understanding of manufacturing and operational practice relevant to engineering and design and the ability to apply them to analyse key engineering processes.
Practice - Applied Knowledge and Understanding	
B1	Select and apply appropriate computational and analytical techniques to model complex problems, discussing the limitations of the techniques employed. Select and critically evaluate technical literature and other sources of information to solve complex problems. Select and apply appropriate materials, equipment, engineering technologies and processes, recognising their limitations.
B2	Demonstrate the formulation and analysis of complex problems with substantiated conclusions related to complex engineering problems. This will include dealing with uncertain and incomplete data and being able to discuss the limitations of techniques employed.
B3	Apply an integrated or systems approach to the solution of complex problems. Evaluate the environmental and societal impact of solutions to complex problems (to include the entire life cycle of a product or process) and minimise adverse impacts.
B4	Ability to monitor, interpret and apply the results of analysis to develop, maintain processes or products in order to bring about continuous improvement. Use a risk management process to identify, evaluate and mitigate risks (the effects of uncertainty) associated with a particular project or activity. Apply knowledge of engineering management principles, commercial context, project and change management, and relevant legal matters including intellectual property rights.
B5	Design solutions for complex problems that evidence some originality and meet a combination of societal, user, business and customer need as appropriate. This will involve consideration of applicable health & safety, diversity, inclusion, cultural, societal, environmental and commercial matters, codes of practice and industry standards. Apply engineering, project, risk and quality management techniques and tools to an engineering problem.
Communication, ICT and Numeracy Skills	
C1	Communicate effectively on complex engineering matters with technical and non-technical audiences, evaluating the effectiveness of the methods used.

C2	Use practical laboratory and workshop skills to investigate complex problem.
C3	Adopt a holistic and proportionate approach to the mitigation of security risks.
C4	Ability to apply a systems approach to engineering complex problems through know-how of the application of relevant technologies.
C5	N/A
Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Demonstrate problem solving skills appropriate to a mechanical, aircraft or design engineer.
D2	Assess the requirements of International Standards and their impact on system design.
D3	Develop the ability to work independently or as part of a team.
D4	Develop the ability for effective use of information technology.
D5	Develop effective technical based communication skills.
Autonomy, Accountability and Working with Others	
E1	Knowledge and understanding of project planning and time and resource management techniques.
E2	Recognise the need for professional and ethical conduct in engineering and awareness of environmental issues.
E3	Function effectively as an individual, and as a member or leader of a team. Evaluate effectiveness of own and team performance Communicate effectively on complex engineering matters with technical and non-technical audiences, evaluating the effectiveness of the methods used.
E4	Understanding of the requirement of Risk Assessments, and demonstrate the ability to compile a risk assessment.
E5	Plan and record self-learning and development as the foundation for lifelong learning/CPD.

Level 9 Modules

CORE

SCQF Level	**Module Code**	**Module Title**	**Credit**	**Term**			**Footnotes**
				1	**2**	**3**	
9	ENGG09027	Aircraft Design and Performance	20	☒	☐	☐	
9	ENGG09004	Project Management	20	☒	☐	☐	
9	ENGG09020	Design Analysis 2	20	☒	☐	☐	
9	ENGG09057	Computer Aided Design 2	20	☐	☒	☐	
9	ENGG09001	Design Prototyping & Testing	20	☐	☒	☐	
9	ENGG09011	Analysis & Simulation 1	20	☐	☒	☐	
Footnotes for Core Modules N/A							

Level 9 Modules

OPTION

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
Footnotes for Option Modules							

Level 9
Criteria for Progression and Award
Please refer to UWS Regulatory Framework for related regulations

Progression

1. To progress from SCQF Level 9 to SCQF Level 10 on this programme, students are required to obtain 120 credits at SCQF Level 9 from the programme of modules identified above and have achieved >=60% averages in SCQF Level 9 and either SCQF Level 7 or 8. Students who have not achieved this progression criteria will be transferred to the BEng (Hons) Aircraft Engineering programme.
2. Regulation 3.13 refers to progression with credit deficit.
3. Students who fail one core module and have 'No further attempts' may be able to transfer and continue on the BSc (Hons) Aircraft Engineering programme.

Award

1. Students wishing to exit after SCQF Level 9 and who have achieved 360 credits, including 120 credits at SCQF Level 9 from the programme of modules identified above, will be awarded a BEng Aircraft Engineering.
2. Students who have not completed the programme of modules defined above, but who have achieved 360 credits including 100 credits at SCQF Level 9 from the above programme, will be awarded a BSc Aircraft Engineering.
3. Distinction will be awarded in line with University Regulations 3.25 and 3.26, no imported credit can be used.

SCQF LEVEL 10

Learning Outcomes (Maximum of 5 per heading)

Knowledge and Understanding	
A1	Demonstrate a comprehensive knowledge and understanding of the key areas of aircraft engineering its underpinning natural science, mathematics, statistics and engineering principles with a critical awareness of new developments and the wider context of engineering.
A2	Demonstrate a detailed knowledge and understanding of design principles and apply them to the development of an engineering design.
A3	Demonstrate a detailed knowledge and understanding of advanced aircraft engineering principles.
A4	Demonstrate a detailed knowledge and understanding of aerodynamics as applied to aircraft design.
A5	Demonstrate a clear understanding of the scope, application and limitations of Finite Element Analysis and Computational Fluid Dynamics.
Practice - Applied Knowledge and Understanding	
B1	Demonstrate the formulation and analysis of complex problems with substantiated conclusions related to aircraft engineering problems. This will include dealing with uncertain and incomplete data and being able to discuss the limitations of techniques employed.
B2	Select and critically evaluate technical literature and other sources of information to solve complex problems. Use practical laboratory and workshop skills to investigate complex problems.
B3	Design solutions for complex problems that evidence some originality and meet a combination of societal, user, business and customer need as appropriate. This will involve consideration of applicable health & safety, diversity, inclusion, cultural, societal, environmental and commercial matters, codes of practice and industry standards.
B4	Apply an integrated or systems approach to the solution of complex engineering problems. Evaluate the environmental and societal impact of solutions to complex problems (to include the entire life cycle of a product or process) and minimise adverse impacts.
B5	Select and apply appropriate materials, equipment, engineering technologies and processes, recognising their limitations. Discuss the role of quality management systems and continuous improvement in the context of complex problems. Apply knowledge of engineering management principles, commercial context, project and change management, and relevant legal matters including intellectual property rights.
Communication, ICT and Numeracy Skills	
C1	Select and apply appropriate computational and analytical techniques to model complex problems, discussing the limitations of the techniques employed.
C2	Analyse and evaluate engineering data as a means of optimising a component or system.
C3	Adopt a holistic and proportionate approach to the mitigation of security risks.
C4	Ability to apply a systems approach to engineering problems through know-how of the application of relevant technologies.
C5	Apply project management techniques and tools to an engineering problem; Use a risk management process to identify, evaluate and mitigate risks (the effects of uncertainty) associated with a particular project or activity.

Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Demonstrate creative skills in preparing engineering design solutions.
D2	Demonstrate the ability to investigate and solve engineering problems through the use of computer simulation.
D3	Carry out individual and group projects in a professional, responsible and ethical manner.
D4	Communicate effectively on complex engineering matters with technical and non-technical audiences, evaluating the effectiveness of the methods used.
D5	N/A
Autonomy, Accountability and Working with Others	
E1	Identify and analyse ethical concerns and make reasoned ethical choices informed by professional codes of conduct.
E2	Function effectively as an individual, and as a member or leader of a team. Evaluate effectiveness of own and team performance.
E3	Plan and record self-learning and development as the foundation of lifelong learning/CPD.
E4	Adopt an inclusive approach to engineering practice and recognise the responsibilities, benefits and importance of supporting equality, diversity and inclusion.
E5	Analyse the risk involved in the design and operation of a product or process.

Level 10 Modules

CORE

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
10	ENGG10027	Advanced Aerodynamics	20	☒	☐	☐	
10	ENGG10001	Final Year Project	40	☒	☒	☐	
10	ENGG10019	Analysis & Simulation 2	20	☒	☐	☐	
10	ENGG10021	Composite Structures	20	☐	☒	☐	
10	ENGG10038	Model Aircraft Design Group project	20	☐	☒	☐	
				☐	☐	☐	
Footnotes for Core Modules							

Level 10 Modules

OPTION

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	

				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	

Footnotes for Option Modules

Level 10
Criteria for Progression and Award
Please refer to UWS Regulatory Framework for related regulations

Progression

1. To progress from SCQF 10 to SCQF 11 in this programme, students are required to obtain 480 credits from the above programme and have achieved an average of >=60% at SCQF Level 10 and have achieved >=60% average in two of the first three SCQF levels of study, one of which must have been SQCF Level 9. Students who have not achieved this progression criteria will be considered for award as oulined below.

Award

1. Students obtaining 480 credits from the above programme who do not satisfy the requirements for progression are eligible for the award of BEng (Hons) Aircraft Engineering.

2. Students obtaining 480 credits, of which a minimum of 100 credits are at SCQF 10 from the above programme, are eligible for the award of BSc (Hons) Aircraft Engineering.

3. The Classification of Honours will be determined by University Regulation 3.20-3.24.

SCQF LEVEL 11 – Integrated Masters Learning Outcomes (Maximum of 5 per heading)	
Knowledge and Understanding	
A1	Demonstrate a comprehensive knowledge and understanding of the key areas of aircraft engineering its underpinning natural science, mathematics, statistics and engineering principles with a critical awareness of new developments and the wider context of engineering.
A2	A critical understanding and embedment of the main theories, concepts and principles within Mechanical and Aircraft Engineering towards the practice of the profession.
A3	Comprehension, appreciation and critical understanding of a range of specialised theories applied to the dynamic nature of Mechanical and Aircraft Engineering knowledge towards understanding each individual project undertaken.
A4	Demonstrate a detailed knowledge and understanding of mechanical and aircraft design and analysis.

A5	Extensive, detailed and critical knowledge and understanding of mechanical and aircraft analysis with advanced materials and complex loading.
Practice - Applied Knowledge and Understanding	
B1	Demonstrate the formulation and analysis of complex problems with substantiated conclusions related to aircraft engineering problems. This will include dealing with uncertain and incomplete data and being able to discuss the limitations of techniques employed.
B2	Design solutions for complex problems that evidence some originality and meet a combination of societal, user, business and customer need as appropriate. This will involve consideration of applicable health & safety, diversity, inclusion, cultural, societal, environmental and commercial matters, codes of practice and industry standards.
B3	Apply an integrated or systems approach to the solution of complex problems. Evaluate the environmental and societal impact of solutions to complex problems (to include the entire life cycle of a product or process) and minimise adverse impacts.
B4	Planning and executing a significant group project of Aircraft Engineering investigation or development. Use practical laboratory and workshop skills to investigate complex problems. Select and apply appropriate materials, equipment, engineering technologies and processes, recognising their limitations.
B5	Discuss the role of quality management systems and continuous improvement in the context of complex problems. Use a risk management process to identify, evaluate and mitigate risks (the effects of uncertainty) associated with a particular project or activity. Apply knowledge of engineering management principles, commercial context, project and change management, and relevant legal matters including intellectual property rights.
Communication, ICT and Numeracy Skills	
C1	Communicate, using appropriate methods, to a range of audiences with different levels of knowledge/expertise.
C2	Communicate, using appropriate Mechanical and Aerospace Engineering methods, to a range of audiences with different levels of knowledge/expertise.
C3	Select and apply appropriate computational and analytical techniques to model complex problems, discussing the limitations of the techniques employed.
C4	Select and critically evaluate technical literature and other sources of information to solve complex problems.
C5	Adopt a holistic and proportionate approach to the mitigation of security risks.
Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Identify, conceptualise and define specific problems and issues in Mechanical and Aircraft Engineering Design and Development.
D2	Develop original and creative responses to problems and issues within an Aircraft Engineering context.
D3	The application of critical analysis, evaluation and synthesis to current issues, or issues that are informed by current developments in Aircraft Engineering.
D4	Handle complex issues and make informed judgements in situations in the absence of complete or consistent data/information.
D5	N/A
Autonomy, Accountability and Working with Others	

E1	Adopt an inclusive approach to engineering practice and recognise the responsibilities, benefits and importance of supporting equality, diversity and inclusion.
E2	Function effectively as an individual, and as a member or leader of a team. Evaluate effectiveness of own and team performance.
E3	Identify and analyse ethical concerns and make reasoned ethical choices informed by professional codes of conduct.
E4	Plan and record self learning and development as the foundation of lifelong learning/CPD.
E5	N/A

Level 11 Modules

CORE

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
11	ENGG11033	Advanced Fluid Mechanics and CFD	20	☒	☐	☐	
11	ENGG11048	Aircraft Structural Analysis	20	☒	☐	☐	
11	ENGG11050	Group Project for MEng	40	☒	☒	☐	
11	ENGG11022	Applied Finite Element Analysis	20	☐	☒	☐	
11	ENGG11049	Aeroelasticity	20	☐	☒	☐	
				☐	☐	☐	
Footnotes for Core Modules							

Level 11 Modules

OPTION

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
Footnotes for Option Modules							

Level 11 **Criteria for Award** ***Please refer to UWS Regulatory Framework for related regulations***
Award

1. To be eligible for the award of MEng (Hons) Aircraft Engineering a candidate must hold 600 credits, including 360 at SCQF Levels 9, 10 and 11 from the above programmee.

2. The Classification will take into account students' performance at Levels 9, Level 10 and Level 11.

The composite classification mark is given by:

20% from Level 9

30% from Level 10

50% from Level 11

The classification will be determined as follows:

First Class >=70% Average

Upper Second Class (2.1) >=60% Average

Lower Second Class (2.2) >=50% Average

3. Students who are ineligible for the award of MEng(Hons) Aircraft Engineering, will be awarded a BEng(Hons) Aircraft Engineering as per Level 10 Award notes.

Regulations of Assessment

Candidates will be bound by the general assessment regulations of the University as specified in the University Regulatory Framework.

An overview of the assessment details is provided in the Student Handbook and the assessment criteria for each module is provided in the module descriptor which forms part of the module pack issued to students. For further details on assessment please refer to Chapter 3 of the Regulatory Framework.

To qualify for an award of the University, students must complete all the programme requirements and must meet the credit minima detailed in Chapter 1 of the Regulatory Framework.

Combined Studies

There may be instances where a student has been unsuccessful in meeting the award criteria for the named award and for other more generic named awards existing within the School. Provided that they have met the credit requirements in line with the SCQF credit minima (please see Regulation 1.21), they will be eligible for a Combined Studies award (please see Regulation 1.61).

For students studying BA, BAcc, or BD awards the award will be BA Combined Studies.

For students studying BEng or BSc awards, the award will be BSc Combined Studies.

Version no: 1

Change/Version Control

What	When	Who
Following 2025 ILR Progression and Award Statements updated.	March 2025	T. Leslie
L7 Module updates: a) ENGG07001 (engineerign mechanics: moved to T1 b) new module introduced to the programme in T2: ENGG07023 (introduction to engineering)(20crds) c) new module introduced to the programme in T1: ASPIRE (20 crds) d) ENGG07011 (aircraft aerodynamics, structures and systems) moved to T2	2025	PL
Section 4- Details of Cohorts Applied to updated to All cohorts from Sept 2024	2024	PL
Section 15 - Admissions Criteria updated to reflect the current standard entry qualifications for 2025	2025	PL
Level 7 Modules: a) MATH07011 Applied Mathematics 1 (T1) replaces MATH07010-Mathematics for Engineering (T1 & T2). b) ENGG07002 Applied Engineering Science delivery changed to T2 was T1 & T2. c) MATH07008 Computational Methods replaces ENGG07016 Programming for Engineers	2024	PL
Level 8 Modules: ENGG08001 module title changed to Materials and Contemporary Manufacturing was Materials & Manufacture.	2024	PL
V1.11 Details of Cohorts Applies to: Changes applies to Sept 24 onwards. (MATH07006) Applied Mathematics 1 (T1) replaces MATH07010-Mathematics for Engineering (T1 & T2).	2024	PL

Computational Methods (MATH07008) (T1) replaces Programming for Engineers (ENGG07016) ENGG07002 Applied Engineering Science delivery changed to T2 was T1 & T2. ENGG08001 module title changed to Materials and Contemporary Manufacturing was Materials & Manufacture. ENGG08029 module title changed to Aerothermodynamics and Aircraft Propulsion was Thermodynamics and Aircraft Propulsion. Entry criteria changed to BCCC (standard higher), or CCD (A levels), reflecting the current requirements		
v1.10 Programme Leader Updated to Dr Bassam Rakhshani General Overview updated to reflect full return to campus delivery. Admissions criteria updated to reflect current requirements. Engagement text updated to reflect current institutional position. EDI text updated to reflect current institutional position. Level 7 Mathematics for Engineering 1 (T1 & T2) added in lieu of Engineering Mathematics 1 (T1) & 2 (T2). Level 8 Computer Aided Design 1 (T1) added in lieu of Computer Aided Design (T1) Level 9 Computer Aided Design 2 (T2) added in lieu of Aircraft Design Modelling and Analysis (T2)	2023	PL

Design Prototyping and Testing (T2) added as optional for Full-Time students, footnotes added to provide explanation.		