Undergraduate Programme Specification

Session	2025/26	**Last Modified**	21/03/2025
Named Award Title	BEng (Hons) Aircraft Engineering		
Award Title for Each Award	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 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- 5 Years	
Duration of Study			
Full-time	4 years	**Part-time**	8 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: BCCC (90 UCAS Tariff points) including Higher Mathematics, plus SQA National 5 Physics (Grade B, or above).
Minimum Entry Requirements: CCCC (84 UCAS Tariff points) including Mathematics, plus National 5 Physics at B.

Or GCE
CCD (88 UCAS Tariff Points) including Maths and Physics.

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
NA

General Overview
The BEng (Hons) Aircraft Engineering programme at UWS provides the opportunity to develop the knowledge and skills needed for the design, build and advancement of the aircraft and their systems. Be able to explore new emerging technologies in the field of aerospace engineering that includes, low and zero-carbon design, drone technologies, new propulsion technologies, and more. The programme combines core engineering disciplinee with specific application to the field of aerospace and aircraft engineering. Through a coherent body of knowledge including mathematics, applied sciences and engineering principles, you will be able to analyse and solve complex aircraft and broader engineering problems. Graduates will be able to select and apply quantitative, experimental and computational analysis techniques to apply in real-world practical situations. They will have an appreciation of professional engineering practice and ethics, Graduates will be commercially aware and be able to apply their knowledge and skills to design and deliver new products or services to meet defined needs using new or existing technologies. The BEng (Hons) Aircraft Engineering programme is contextually aligned with the Engineering Council's AHEP4 Learning Outcomes as outlined below;
C1- Apply knowledge of mathematics, statistics, natural science and engineering principles to the solution of complex problems. Some of the knowledge will be at the forefront of the particular subject of study. C2- Analyse complex problems to reach substantiated conclusions using first principles of mathematics, statistics, natural science and engineering principles.
C3- Select and apply appropriate computational and analytical techniques to model complex problems, recognising the limitations of the techniques employed.

C4- Select and evaluate technical literature and other sources of information to address complex problems
C5- Design solutions for complex problems that 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.
C6- Apply an integrated or systems approach to the solution of complex problems
C7- Evaluate the environmental and societal impact of solutions to complex problems and minimise adverse impacts
C8- Identify and analyse ethical concerns and make reasoned ethical choices informed by professional codes of conduct.
C9- Use a risk management process to identify, evaluate and mitigate risks (the effects of uncertainty) associated with a particular project or activity.
C10- Adopt a holistic and proportionate approach to the mitigation of security risks.
C11- Adopt an inclusive approach to engineering practice and recognise the responsibilities, benefits and importance of supporting equality, diversity and inclusion.
C12- Use practical laboratory and workshop skills to investigate complex problems.
C13-Select and apply appropriate materials, equipment, engineering technologies and processes, recognising their limitations.
C14- Discuss the role of quality management systems and continuous improvement in the context of complex problems.
C15- Apply knowledge of engineering management principles, commercial context, project and change management, and relevant legal matters including intellectual property rights.
C16- Function effectively as an individual, and as a member or leader of a team
C17- Communicate effectively on complex engineering matters with technical and non-technical audiences
C18- Plan and record self-learning and development as the foundation for lifelong learning/CPD General Overview of Programme.

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. More use is now being made of problem-based learning materials in the teaching environment. 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 materials to students including use of multi-media presentations and extensive use of the internet/electronic technology or other appropriate e-learning strategies. The School has a policy of using small tutorial groups in the key subject areas and either sub-divides cohorts into small groups or increases staff numbers in classroom or laboratory environments. All modules are taught by subject experts and for final year students staff make use of materials and topics raised through their professional activities whether research or consultancy based. Many case studies and examples of applications are taken from live industrial situations. The School 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. Students currently have access to high specification workstations in state-of-the-art air-conditioned laboratories. Students and staff have personal accounts for the School facilities and students are able to gain 24 hour access to the IT facilities seven days per week.

All modules are now supported electronically, providing notes, copies of lectures models, videos etc. Students can also contact staff via e-mail or vice-versa. Students are supplied with staff contact details (including e-mail addresses) in the Programme Handbooks. There are examples within the School where staff make use of the VLE to perform additional teaching and learning activities such as on-line tests and assessments. A variety of assessment methods are used throughout the programmes. These range from class tests, laboratory reports, design assessments, individual and group presentations and formal examinations. In first year, assessment is by class test, coursework and exams. This aims to build confidence in the student's ability to pass modules. Both group project work and individual project work are incorporated into the curriculum so that students develop their learning skills associated with group and independent working as well as giving presentation on their work. Formative feedback and constructive comments are given to the student on their work. Anonymous marking is undertaken, where possible. Honours projects and group projects are double marked. Mixtures of formative and summative methods are used in the assessment of student performance within the School.

Delivery of the programme is on-campus lectures, tutorial, laboratory or group work activity. The timetables are produced to ensure on-campus learning time is efficiently maximised. 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. Students are assessed in a variety of ways and settings including, practical, written, oral, time-bound, group, real- world environment, creative, critical thinking and this broad approach to assessment provides a number of transferrable skills to be developed whilst assessing.

Typical Delivery Method

Delivery of the programme is by on-campus lectures, tutorials, laboratory and/or group work activity. The timetables are produced to ensure on-campus learning time is efficiently maximised.

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 focused 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.

UWS Graduate Attributes- https://www.uws.ac.uk/current-students/your-graduate-attributes/

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 are developed throughout and is formalised in final year 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.

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 and application of knowledge of mathematics, statistics, applied sciences and engineering principles to the solution of complex aircraft and broader engineering problems. Some of the knowledge will be at the forefront of the particular subject of study.
A2	Demonstrate a basic knowledge and understanding of introductory principles and contexts with respect to multi-disciplinary aspects of engineering.
A3	Demonstrate 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	Apply knowledge of engineering management principles, commercial context, project and change management and relevant legal matters including intellectual property rights.
Practice - Applied Knowledge and Understanding	
B1	Demonstrate the analysis of complex aircraft engineering problems to reach substantiated conclusions using first principles of mathematics, statistics, applied sciences and engineering principles.
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 and analytical techniques to model complex problems, recognising the limitations of the techniques employed.
B5	Evaluate the environmental and societal impact of solutions to complex problems 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 design and simulation 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	N/A
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 practise 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	Identify and analyse ethical concerns and make reasoned ethical choices informed by professional codes of conduct.
E5	N/A

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 Structures and Systems	20	☐	☒	☐	
Footnotes for Core Modules N/A							

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 and apply knowledge of mathematics, statistics, applied sciences and engineering principles to the solution of complex problems. Some of the knowledge will be at the forefront of the particular subject of study.
A2	Demonstrate an extended knowledge of the different types and characteristics of engineering materials and manufacturing processes.
A3	Demonstrate the role of quality management systems and continuous improvement in the context of complex problems.
A4	Demonstrate an understanding of the environmental and societal impact of solutions to complex problems and minimise adverse impacts.
A5	N/A
Practice - Applied Knowledge and Understanding	
B1	Demonstrate the analysis of complex engineering problems to reach substantiated conclusions using first principles of mathematics, statistics, applied sciences and engineering principles. Select and apply appropriate computational and analytical techniques to model complex problems, recognising the limitations of the techniques employed. Select appropriate materials and manufacturing methods for a range of consumer products.
B2	Evaluate the environmental and societal impact of solutions to complex problems and minimise adverse impacts. Select and evaluate technical literature and other sources of information to address complex problems.
B3	Apply an integrated or systems approach to the solution of complex problems. Discuss the role of quality management systems and continuous improvement I the context of complex problems.
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 skills in the application and use of computer aided design software and use practical laboratory and workshop skills to investigate complex problems.
Communication, ICT and Numeracy Skills	
C1	Communicate design ideas through the use of 3D modelling software.
C2	Adopt a holistic and proportionate approach to the mitigation of security risks.
C3	Demonstrate an understanding of the computer techniques available to enhance the communication of engineering ideas and concepts.
C4	Demonstrate the use of web technology to communicate product information to a selected audience.
C5	Demonstrate an understanding of the computer techniques available to enhance the communication of engineering ideas and concepts
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	Communicate effectively on complex engineering matters with technical and non-technical audiences.
E2	Develop an enhanced level of transferable skills that will be of value in working with others in more complex situations.
E3	Function effectively as an individual, and as a member or leader of a team.
E4	Plan and record self-learning and development as the foundation of 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	Fluids 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 N/A							

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.
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 and apply knowledge of mathematics, statistics, applied sciences and engineering principles to the solution of complex problems. Some of the knowledge will be at the forefront of the particular subject of study.
A2	Demonstrate an understanding of manufacturing and operational practice relevant to engineering and design and the ability to apply them to analyse key engineering processes.
A3	Demonstrate a 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	Demonstrate a 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	
Practice - Applied Knowledge and Understanding	
B1	Demonstrate the analysis of complex aircraft engineering problems to reach substantiated conclusions using first principles of mathematics, statistics, applied sciences and engineering principles. Select and apply appropriate materials, equipment, engineering technologies and processes, recognising their limitations.
B2	Select and apply appropriate computational and analytical techniques to model complex problems, recognising the limitations of the techniques employed. Apply an integrated or systems approach to the solution of complex problems.
B3	Evaluate the environmental and societal impact of solutions to complex problems and minimise adverse impacts. Use a risk management process to identify, evaluate and mitigate risks (the effects of uncertainty) associated with a particular project or activity.
B4	Design solutions for complex problems that 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	Select and evaluate technical literature and other sources of information to address complex problems. Use practical laboratory and workshop skills to investigate complex problems. 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	Apply appropriate mathematical and analytical techniques in the solution of engineering and design problems.
C2	Demonstrate the ability to use relevant test, modelling, and measurement equipment in the laboratory.
C3	Adopt a holistic and proportionate approach to the mitigation of risks.
C4	Ability to apply a systems approach to engineering problems through know-how of the application of relevant technologies.

C5	Communicate effectively on complex engineering matters with technical and non-technical audiences.
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	Adopt an inclusive approach to engineering practice and recognise the responsibilities, benefits and importance of supporting equality, diversity and inclusion.
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. Communicate effectively on complex engineering matters with technical and non-technical audiences.
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.
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 or above, 100 credits from the programme above 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 and apply knowledge of mathematics, statistics, applied sciences and engineering principles to the solution of complex problems. Some of the knowledge will be at the forefront of the particular subject of study.
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 including creep, plasticity, fracture mechanics, vibrations and condition monitoring.
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 analysis of complex aircraft engineering problems to reach substantiated conclusions using first principles of mathematics, statistics, applied sciences and engineering principles. Select and apply appropriate materials, equipment, engineering technologies and processes, recognizing their limitations.
B2	Select and apply appropriate computational and analytical techniques to model complex problems, recognising the limitations of the techniques employed. Apply an integrated or systems approach to the solution of complex problems. Select and evaluate technical literature and other sources of information to address complex problems.
B3	Design solutions for complex problems that 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.
B4	Apply an integrated or systems approach to the solution of complex problems. Evaluate the environmental and societal impact of solutions to complex problems and minimise adverse impacts. 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	Undertake research into a number of aircraft engineering related areas. Undertake static and dynamic assessments of a range of aircraft engineering components or equipment Use practical laboratory and workshop skills to investigate complex problems Select and apply appropriate materials, equipment, engineering technologies and processes, recognizing their limitations. Discuss the role of quality management systems and continuous improvement in the context of complex problems.
Communication, ICT and Numeracy Skills	
C1	Use computer simulation to communicate design solutions.
C2	Adopt a holistic and proportionate approach to the mitigation of security risks.
C3	Use computer software to present project results to a variety of audiences including peers, academics and industrialists.
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.

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	Assess the requirements of international standards and how they impact on aircraft and component design.
D4	Carry out individual and group projects in a professional manner.
D5	Develop effective technical based communication skills.
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.
E3	Plan and record self-learning and development as the foundation for lifelong learning and CPD.
E4	Communicate effectively on complex engineering matters with technical and non-technical audiences.
E5	Identify and analyse ethical concerns and make reasoned ethical choices informed by professional codes of Conduct.

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 N/A							

Level 10 Modules

OPTION

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

				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	

Footnotes for Option Modules

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

Award

1. To be eligible for the award of BEng (Hons) Aircraft Engineering a candidate must hold 480 credits, including 120 at SCQF 10 from the above programme.

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.

Note: Where BEng (Hons) Aircraft Engineering students have met the progression criteria for the MEng (Hons) Aircraft Engineering programme they will be offered the opportunity to transfer to this progrmme prior to them enrolling for their BEng (Hons) Aircraft Engineering graduation.

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 - Updated Graduate Attributes, Employability, PDP, Progression and Award Statements.	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	2024	PL

Contemporary Manufacturing was Materials & Manufacture.		
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). 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	2024	PL
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	2023	PL

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