AAUB
PROSPECTUS

Prospectus

AAUB

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Public Relations & Information Division (PR&I)

Office time: 9:00 am to 3:00 pm
Sunday through Thursday
Telephone: +8802 55065054
Cellphone: +880 1769995071
e-mail: pr&i@aaub.gov,bd
web: https://aaub.gov.bd
https://aaub.edu.bd

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Why Study at AAUB?

Specialised University

Bangladesh's first and only public university dedicated to aviation and aerospace engineering.

Diverse Programmes

Offers aviation, aerospace, aircraft maintenance, avionics, space systems, space law, aviation management, and satellite communication.

Research Opportunities

State-of-the-art facilities support research, publication, and academic collaboration.

Quality Education

Renowned faculty and experts deliver specialised lectures for academic excellence.

Vibrant Campus Life

Active student clubs, seminars, and events create a dynamic environment.

Strong Alumni Network

Graduates excel in various high-profile roles, fostering professional growth.

Sports Facilities

Indoor and outdoor sports fields encourage athletic development.

Advanced Labs

Cutting-edge labs bridge theory with hands-on experience.

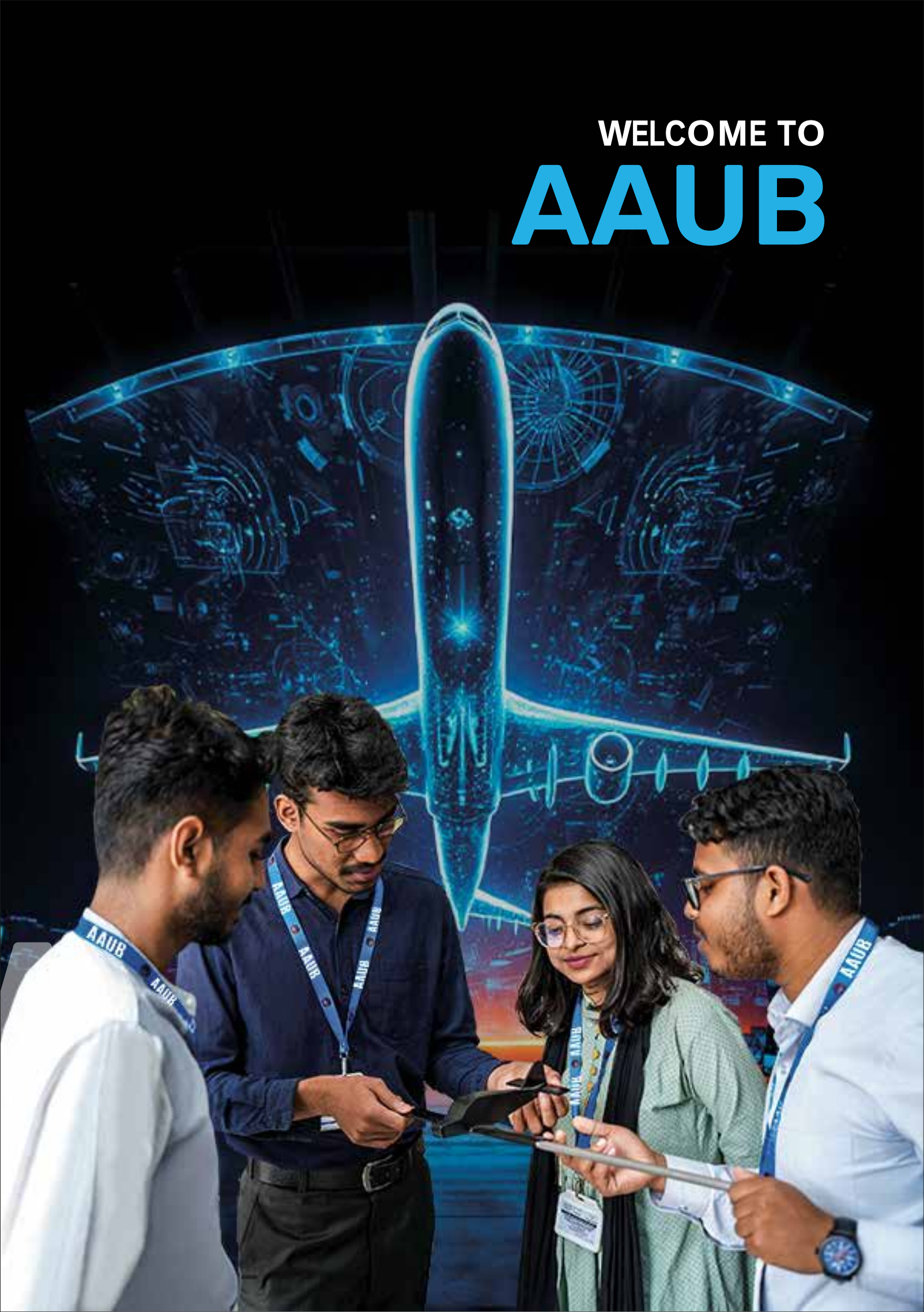
Residential Halls

Safe, comfortable housing with study-friendly spaces and dining options.

Transportation

Affordable, well-planned routes ensure easy access to campus.

WELCOME TO AAUB



VICE CHANCELLOR'S MESSAGE

With earnest joy and profound anticipation, I extend a warm welcome to you on behalf of Aviation and Aerospace University Bangladesh (AAUB). Here, you stand on the threshold of endless horizons, a world where possibilities stretch far and wide, crafted to ignite your spirit and sharpen your mind. May this journey be one of inspiration, challenge, and boundless discovery.

AAUB is not merely an institution but a vibrant, forward-looking community built on the pillars of excellence, innovation, and an unfaltering dedication to the pursuit of knowledge in the ever-evolving fields of aviation and aerospace. As you join us, you open the door to a future optimistic with opportunity, where potential meets purpose.

Founded on a vision to nurture homegrown expertise and advance aviation and aerospace within our borders, AAUB was established to endow the country with pioneering thinkers and skilled professionals in these domains. In the few years since our journey began, we have made remarkable strides—from launching academic programmes mere months after inception to settling our blooming undergraduate community on the Lalmonirhat Campus.

Our mission is to shape the next generation of aviation and aerospace leaders through unique education and pioneering research. As we expand, we are excited to offer an even broader array of undergraduate, post graduate programmes at present and intend to offer even more advanced studies and research programmes covering the whole range of aviation and aerospace domains. Yet, beyond academics, AAUB is committed to the personal and professional growth of each individual, providing a vibrant environment for holistic development. Here, you will find opportunities for extracurricular engagement, leadership, and cultural exchange, creating not just academic accomplishments but lifelong connections and memories.

Thank you for entrusting us with your ambitions. We welcome you to join us on a transformative journey where knowledge takes flight and dreams reach new horizons.

Welcome to AAUB, where the sky is just the beginning.

Warm regards,

Air Vice Marshal A K M Manirul Bahar, OSP, BSP, ndc, hdmc, afwc, psc, ADWC

Vice Chancellor, AAUB

CONTENTS

Prospect in
Aviation and Aerospace Sector

As the country's first specialised public university in aviation and aerospace, AAUB is offering diverse, cutting-edge bachelor's and master's degrees for the prospective students, which include Aerospace Engineering, Avionics Engineering, Space System Engineering, Space Communication and Navigation Technology, Aircraft Maintenance Engineering (Aerospace), Aircraft Maintenance Engineering (Avionics), General Aviation, Aviation Operation Management, Aviation Standardisation, Regulations and Safety, Aviation and Space Law, Science and Humanities, Accident Investigation, Engineering and Technology.

Aerospace Engineering

Aerospace Engineers play the key role of designing commercial aeroplanes and military aircraft to developing rockets, and satellites for space exploration. The graduates would work for companies like Boeing, Airbus, Lockheed Martin, and others, where they might be given the opportunities to design, test, and innovate new aircraft and aerospace technologies.

Avionics Engineering

Avionics engineers specialise in designing and working with electronic systems for aircraft and spacecraft. They focus on things like navigation, communication, and flight control systems. Graduates are sought by aviation industries and defence sectors for roles in advanced avionics development and integration.

Space System Engineering

Space system engineers design and manage complex systems for space missions, from satellites to interplanetary exploration vehicles. Graduates contribute to global space agencies and private firms like NASA, ESA, and Blue Origin.

Space Communication and Navigation Technology

This field focuses on developing front-line communication and navigation systems for satellites and spacecraft. Graduates support innovations in global positioning systems and deep-space communication for space agencies and telecommunication firms.

Aircraft Maintenance Engineering (Aerospace)

Specialising in the maintenance of aircraft structures and propulsion systems, graduates ensure airworthiness and safety standards. Career opportunities include aviation maintenance companies and aerospace manufacturers.

Aircraft Maintenance Engineering (Avionics)

Focusing on aircraft electronic systems, avionics maintenance engineers handle diagnostics, repairs, and system upgrades. Graduates join airlines, MROs, and avionics manufacturing firms globally.

General Aviation

This department covers the operation and management of non-commercial aviation, from private jets to air taxis. Graduates excel in diverse roles within private aviation, training institutes, and airfield operations.

Aviation Operation Management

Students gain expertise in managing airline operations, airport logistics, and aviation infrastructure. Graduates are pivotal in airlines, airports, and regulatory bodies, ensuring efficient aviation management.

Aviation Standardisation, Regulations, and Safety

This field trains students in global aviation regulations, standardisation practices, and safety protocols. Graduates play critical roles in regulatory authorities, compliance departments, and aviation safety organisations.

Aviation and Space Law

Focusing on legal aspects of aviation and space exploration, students learn international laws, treaties, and dispute resolution. Graduates work with aerospace companies, law firms, and international regulatory bodies.

Science and Humanities

This interdisciplinary department supports foundational knowledge in science, mathematics, ethics, and communication, ensuring well-rounded aviation professionals with critical thinking and problem-solving skills.

Engineering and Technology

This faculty delivers cutting-edge education in core engineering principles and emerging technologies, preparing graduates for diverse engineering roles in aviation, space exploration, and beyond.

At its core, a career in aviation and aerospace offers both challenges and immense rewards. Graduates in this sector can shape the future by working on groundbreaking technologies and driving innovation at the heart of a dynamic, ever-evolving industry. Soar beyond limits and redefine possibilities!

About AAUB

Human resource is the most valuable strategic resource of a country. Academic institutions play critical role in preparing skilled human resource. Bangladesh needs new professionals across various sectors including aviation to reap benefit of the national demographic dividend. ICAO forecasted that the growth of global air passenger would be doubled by 2030. Asia pacific region is expected to become largest air transport market of the world within next 10 years' time. Such global trend of aviation expansion will definitely create ample opportunities on the aviation sector of Bangladesh. To meet the growing demands, it was long been to establish higher educational institution for the creation of aeronautical and aerospace professional in the country.

Aviation and Aerospace University Bangladesh is a higher education institution that specialises in providing students with the knowledge and skills needed to pursue a career in the aviation and aerospace industry. This university typically offers undergraduate and post graduate programmes in areas such as aerospace engineering, avionics, aircraft maintenance, air safety, space law, flight operations, and aircraft maintenance. Students can expect to gain a deep understanding of the technical and operational aspects of the aviation industry, as well as the broader economic, political, and regulatory environment in which it operates. The curriculum often includes hands-on training, such as flight simulation and aircraft maintenance labs, and many programmes also offer opportunities for internships and co-op experiences with leading companies in the aviation industry. Graduates of aviation universities are well-prepared for a wide range of careers in the aviation industry, including roles in aircraft design, manufacturing, and maintenance, as well as air traffic control and flight operations.

Vision and Mission

AAUB has clearly defined vision and mission.

Vision

To become a leading international university in the field of aviation, space and technological studies through capacity building.

Mission

To transform people into Aviation, Space and Technological professional and enthusiast by providing world class education.

Key Management

VICE CHANCELLOR

Air Vice Marshal A K M Manirul Bahar
OSP, BSP, ndc, hdmc, afwc, psc, ADWC

PRO VICE CHANCELLOR

Air Commodore M Neyamul Kabir
BUP, ndc, hdmc, psc, GD(N)

TREASURER

Air Commodore Md Readad Hossain
BUP, ndc, afwc,psc, ADWC

REGISTRAR

Air Commodore Md Mokhlesur Rahman
ndc, psc, Engineering

Faculties and Departments

1	**Faculty of Aerospace Engineering**	• Department of Aerospace Engineering
2	**Faculty of Avionics Engineering**	• Department of Avionics Engineering
3	**Faculty of Space Science, Engineering and Applications**	• Department of Space System Engineering • Department of Space Communication and Navigation Technology
4	**Faculty of Aviation Operations and Maintenance**	• Department of Aircraft Maintenance Engineering (Aerospace) • Department of Aircraft Maintenance Engineering (Avionics) • Department of General Aviation (will start shortly)
5	**Faculty of Aerospace Management and Entrepreneurship**	• Department of Aviation Operation Management
6	**Faculty of Aviation Standardization, Regulations and Safety**	• Department of Aviation Standardization, Regulations and Safety • Department of Aviation and Space Law
7	**Faculty of Science and Humanities**	• Department of Science and Humanities
8	**Faculty of Engineering and Technology**	• Approval activities in respect of the faculty, department and programme will start shortly.

Ongoing Programmes

Undergraduate Programmes

- Aerospace Engineering
- Avionics Engineering
- Aircraft Maintenance Engineering (Aerospace)
- Aircraft Maintenance Engineering (Avionics)

Post Graduate Programmes

- Space System Engineering
- Satellite Communication Engineering
- Aviation Management
- Aviation Safety and Accident Investigation
- International Air and Space Law

Faculties and Fields of Study

1 **Faculty of Aerospace Engineering**

- Aerodynamics Specialist
- Computational Fluid Dynamics Specialist
- Aircraft Stability and Control Specialist
- Aeroelasticity and Vibration Specialist
- Aircraft Structure Specialist

2 **Faculty of Avionics Engineering**

- Aircraft Systems Engineer
- Unmanned Aerial Vehicle (UAV) Specialist
- Avionics Maintenance Engineer
- Flight Simulation Engineer
- Avionics Integration Specialist

3 **Faculty of Space Science Engineering and Applications**

- Academia
- Aerospace Engineer
- Satellite Systems Engineer
- Spacecraft Propulsion Engineer
- Spacecraft Systems Engineer
- Space Mission Analyst
- Space Programme Management
- Space Research Scientist
- Satellite Communication Engineer
- Navigation Systems Specialist
- Deep Space Network Engineer
- Ground Station Operations Manager

4 **Faculty of Aviation Operations and Maintenance**

- Licensed Aircraft Maintenance Engineer (LAME)
- Technical Services Engineer (Aviation)
- Maintenance Planner (Aerospace)
- Aerospace Technician
- Quality Assurance Inspector (Aviation)
- Aviation Safety Inspector
- Aircraft Technical Instructor
- Aviation Lead Engineer
- Flight Mechanics Engineer
- Aircraft Supervisor
- Aircraft Maintenance Engineer
- Aviation Professionals
- Aircraft Cabin IT System Expert
- Commercial Pilot
- Co-Pilot
- Flight Attendant
- Aircraft Mechanic

5 **Faculty of Aerospace Management and Entrepreneurship**

- Aviation Education Sector
- Airport Management
- Airport Operations
- Fueling Management
- Credit Control Management
- Freight and Cargo Management
- Airport Duty Management
- Airport Systems Management
- Ground Handling
- Aviation Tourism/Travel Management
- Airport Hospitality
- Aircraft Maintenance Management
- Airline Corporate Planning and Strategy
- Airline Revenue Management
- Flight Dispatch Services
- Aviation Entrepreneurship

6 **Faculty of Aerospace Standardization, Regulations and Safety**

- Academia
- Government and Non-government Accident Investigation Agency
- Airframe and Power Plant Manufacturer
- Airport Operations
- Air Traffic Services
- Air Safety Regulator
- Freight and Cargo Management
- Civil Aviation Authority
- Airport Systems Management
- Aircraft Maintenance Management
- Space Organization like the SPARRSO, European Space Agency
- Law Firms or Consulting Firms with an aviation and space law practice
- Legal Adviser at national and international Airlines
- Legal Departments of Airports, Airlines and Aerospace Companies

7 **Faculty of Science and Humanities**

- Humanities
- Social Sciences
- Security Studies

8 **Faculty of Engineering and Technology**

- The faculty, department, and programme activities are set to commence shortly

Research

Title of Research	Department/Faculty
Designing and Developing an Indigenous Mars Rover for Inter-Planetary Scientific Exploration	Dr. Afzal Hossain, Air Commodore (Retd), Distinguished Professor Department of Avionics Engineering
Performance and Aerodynamic Analysis of Newly Manufactured Aircraft	Dr. Saifur Rahman Bakaul Group Captain Department of Aerospace Engineering
Investigation and Analysis of Performance Between Bell and Aero-spike Variable Geometry (VG) Nozzle Utilizing a Turbojet Engine	Dr. G M Jahangir Alam Air Commodore Department of Aerospace Engineering
Fabrication of Ride Wing Using Fiber Composite Materials	Dr. Khondker Omar Anwar Distinguished Professor Department of Aerospace Engineering
Comparative Investigation of Aerodynamic Analysis and Optimization Approaches for Low Reynolds Number Airfoil Design	Md. Abdus Salam, Air Commodore (Retd) Distinguished Professor Department of Aerospace Engineering
Synthesis Yttrium and Gadolinium Doped Bismuth Ferrites Photocatalyst to Produce Hydrogen by Splitting Water	Md. Masud Parvez Assistant Professor Science & Humanities
An Investigation into the Applicability of Lattice Structures in Aircraft Wing Design	Saiaf Bin Rayhan Assistant Professor Department of Aerospace Engineering
Automation of an Unmanned Aerial System through Application of Computer Vision	S.M. Ishtiaq Ibn Salam Lecturer Department of Aerospace Engineering
An Exploratory Study on the Structural Analysis of the Wing of An Aero L-39 Albatross Jet Trainer Using the Fluid-structure Interaction Approach	Saiaf Bin Rayhan Assistant Professor Department of Aerospace Engineering
Investigation into the Key Parameters of Sheet Metal Forming of Aerospace Materials	Shahrukh Khan Lecturer, Department of Aerospace Engineering
Computational Fluid Dynamics Model Development on Blunt Body Aerodynamics	Musfequs Salehin Lecturer Department of Aerospace Engineering
Design and Development of an Unmanned Tandem Tilt Rotor Aircraft	Ziad Bin Abdul Awal Lecturer Department of Aerospace Engineering

Achievements

AAUB motivates all students to learn everything necessary for a better tomorrow and construct classified revolutionary solutions. In our short journey, this university endeavoured to achieve:

1. Designing and Making Drones for emergency medical support to flood-affected areas.
2. Making and testing a new model rocket for future application (Space Exploration).
3. Making and successfully testing 2 X Basic Trainer Model Aircraft with the help of the Bangladesh Air Force.
4. Designing and developing Pico Satellite as a part of the research model.
5. Deployment of UAV-assisted 6G wireless networks using a whale optimisation algorithm.
6. Establishing new partnerships with the world's leading universities/institutions/organisations (the listed at Page:25) around the world.
7. Achieving 3rd position in the International KIBO Robot Competition (Japan).
8. Designing the first-ever one-unit CubeSat Balloon testing in Bangladesh.
9. Arranging flagship Intra-University robotics competition (ROBOVERSE) at AAUB.
10. Participating and securing 1st position as "Best New Entrant" in the Vertical Flight Society (VFS) Competition (USA).
11. Being selected for Critical Design Review (CDR) Phase-3 at CANSAT competitioin scheduled to be held in USA on June 2025 organised by American Astronautical Society.
12. Achieving a remarkable milestone at the American Institute of Aeronautics and Astronautics (AIAA) Design/Built/Fly (DBF) 2025 Competition while securing an overall 36th position out of 159 top-tier universities from across the globe.

AAUB is looking to the future and is committed to continuing the pursuit of excellence. By continuing to invest in its excellent faculty, students, and infrastructure, AAUB will work to expand its research and outreach initiatives.

Spotlight

Students' Papers Presentation: Satellite Project

In a captivating event, the spotlight fell on the "Pico-Satellite for Bangladesh" project, led by Dr. Nazmul Ula, a distinguished Professor and Associate Dean at Loyola Marymount University, CA, USA. Alongside, Air Cdre Dr. Md Afzal Hossain (Retd), a distinguished Professor from AAUB, and Assistant Professor Md Samin Rahman from the same institution, stood as co-Principal Investigators.

Their paper, titled "Design and Development of an Indigenous Ground Station for LEO Orbit Satellites," is set to be published in the esteemed IEEE Xplore Digital Library. This groundbreaking endeavour was showcased at the International Conference on The Next Generation Electronics (NeLex2023), held on December 15-16, 2023, at Vellore Institute of Technology, Vellore, India, under the auspices of IEEE. Notably, students, including Benzir Ahamed, Md. Rafi, and Aliul Hassan Olee, played pivotal roles as co-authors, further enriching the collaborative effort.

Advancing Educational Excellence

The AAUB is committed to impart quality education since inception. The development of a quality education system largely lies on the committed members of faculty, quality infrastructure, supportive administration, large pool of learning resources and hard working brilliant students. It is a challenging venture to harness all of these. But we are committed to equip the students with the best possible teaching resources, practical exposure and training method so that they are able to shape up their life and career for a challenging world out here.

Pioneering Practical Education Initiatives

Teachers shape the students for future changes, their dedication mingled with knowledge and tireless efforts pave the way to the students to touch the zenith of success. AAUB own a pool of talented teachers with higher degrees from the renowned universities of the country and abroad. Besides numbers of distinguished experts on the subjects, having vast experience and expertise knowledge are the assets to this university. Additionally, Bangladesh Air Force has provided a team of professional instructors to assist in this endeavor. Furthermore, the University Grants Commission of Bangladesh (UGC) has been highly appreciative of our overall performance and achievement

considering the short time span. To impart world class technological practical education. We have established numbers of modern and highly sophisticated laboratories like Advanced Aerodynamics and Propulsion Labs, Drone and Satellite Labs, Space Systems Labs, Accident Investigation Labs, Satellite Communication Labs, and Space Avionics and Remote Sensing Labs etc. Moreover, exchange programmes with local and foreign experts have been initiated to further research activities. Practical education programmes are also conducted with the support of the Air Force and Military Institute of Science and Technology (MIST) along with the modern labs established by the university.

Fostering Collaborative Teaching Initiatives

AAUB, as a specialised university, requires extensive support for the formation of its curriculum and the selection of experts to conduct. To this end, part-time teachers from Dhaka University, Bangladesh University of Engineering and Technology (BUET) and MIST were appointed at the outset to conduct the courses. Furthermore, with the assistance of aviation experts from the Air Force, Civil Aviation Authority and various aviation organizations, educational programmes remain ongoing. In addition to the university's established laboratories, assistance is also being taken from the Air Force, MIST and Air Force Bases to effectively carry out practical educational programmes.

Facilities at
Lalmonirhat Campus

At the Lalmonirhat campus of AAUB, students have access to a variety of facilities that enhance their academic journey and prove opportunities for personal growth. These facilities include:

Laboratories

Several specialised laboratories at AAUB have created significant opportunities for the students to master their skills through real-life experience. As stated earlier, some of our special labs Mechanics of Materials lab, Aerospace Materials Lab, Aerodynamics lab, Heat Transfer lab, Aerospace Structural System lab, Aerospace Propulsion lab and English Language Lab. Our students in the communicative English class conducted research on the effectiveness of our laboratories, and they have observed that in the field of science and engineering, labs play a crucial rule to hone critical thinking skills through hands on learning. Besides, AAUB also avail the facilities of Civil Aviation, Biman or other airlines and Bangladesh Air Force for imparting effective hands-on learning to the students. AAUB is proud to offer several specialised laboratories that provide students with valuable real-life experiences to enhance their skills. These labs have been instrumental in offering significant opportunities for students to gain hands-on experience in their respective fields.

Some of the notable labs at AAUB include:

- Mechanics of Material Lab
- Circuit Lab
- Aerospace Material Lab
- Micro Processor and Micro Controller Lab
- Aerodynamics Lab
- Image Processing Lab
- Heat Transfer lab
- Digital Electronics Lab
- Aerospace Structural System Lab
- Chemistry Lab
- Aerospace Propulsion Lab
- Physics Lab
- English Language Lab
- Satellite communication Lab
- Pico satellite Lab
- Computer Lab
- Satellite Development, Control system and Tracking Lab
- Aviation Safety and Accident Investigation Lab

Library Resources and Services

The AAUB library plays a crucial role in supporting the research, and learning needs of the AAUB community. It offers a wide range of scholarly resources, facilities, and services to faculty members, staff, and students. Located in the serene and peaceful environment of the Lalmonirhat campus, the library provides an ideal setting for students to conduct research and pursue academic learning. Since its establishment in 2019, the AAUB library has continuously expanded and is now recognised as one of the well-constructed university libraries in Bangladesh. It boasts a rich collection of resources and offers a welcoming space along with high-quality services to its users. The library facilitates research support, information skills training, bibliographic management, lending, reference assistance, readers guidance, internet access, reading materials, news clipping services, database searching, and audio-visual resources. To ensure convenient access to online resources, the library provides Wi-Fi and broadband internet connectivity. Currently, the library is organised into 19 different sections, including CSE, Physics, Chemistry, Economics, Mathematics, Sociology, English, Psychology, Aviation Operation Management, Aeronautical Engineering, EEE, Mechanical Engineering, Avionics and Aerospace, reference section, newspaper archive, study hall, faculty corner, and library admission. This meticulous arrangement allows for better organization and efficient service delivery. Overall, the AAUB library is committed to providing comprehensive support for the information needs of its users, contributing to the academic success and growth of the AAUB community.

Additional Facilities

Canteen: A convenient space where students can enjoy meals, socialise, and take a break from their academic activities.

Internet Facilities: Ensuring reliable and high-speed internet connectivity for research, communication, and access to online resources.

Transportation from Hall to Campus: Transportation services specially for students residing in the hall, making it easier for them to commute to and from the campus.

Air-Conditioned Classrooms: Equipping classrooms with air conditioning to create a comfortable and conducive learning environment, enabling students to focus on their studies.

Indoor Games: Providing recreational activities indoors, offering students opportunities to relax, unwind, and engage in friendly competitions.

Gymnasium: Offering a well-equipped gymnasium where students can exercise and maintain their healthy lifestyle.

These diverse facilities contribute to an enriching student experience at the Lalmonirhat Campus, nurturing both academic and personal development. Students have access to a supportive environment that fosters their talents, encourages exploration and promotes a well-rounded education.

Clubs

Cultural Club: A platform for students to explore and showcase their talents in various cultural activities.

Aero-Astro Club: Fostering an interest in astronomy and providing opportunities for stargazing and astronomical observations.

Sports Club: Engaging Students in various sports and promoting physical fitness and teamwork.

Drone Club: Encouraging students to learn and experiment with drone technology and its applications.

AI and Robotics Club: Promoting the exploration of artificial intelligence and robotics through workshops and projects.

Photography and Adventure Club: Allowing students enhance their photography skills and participate in adventurous activities.

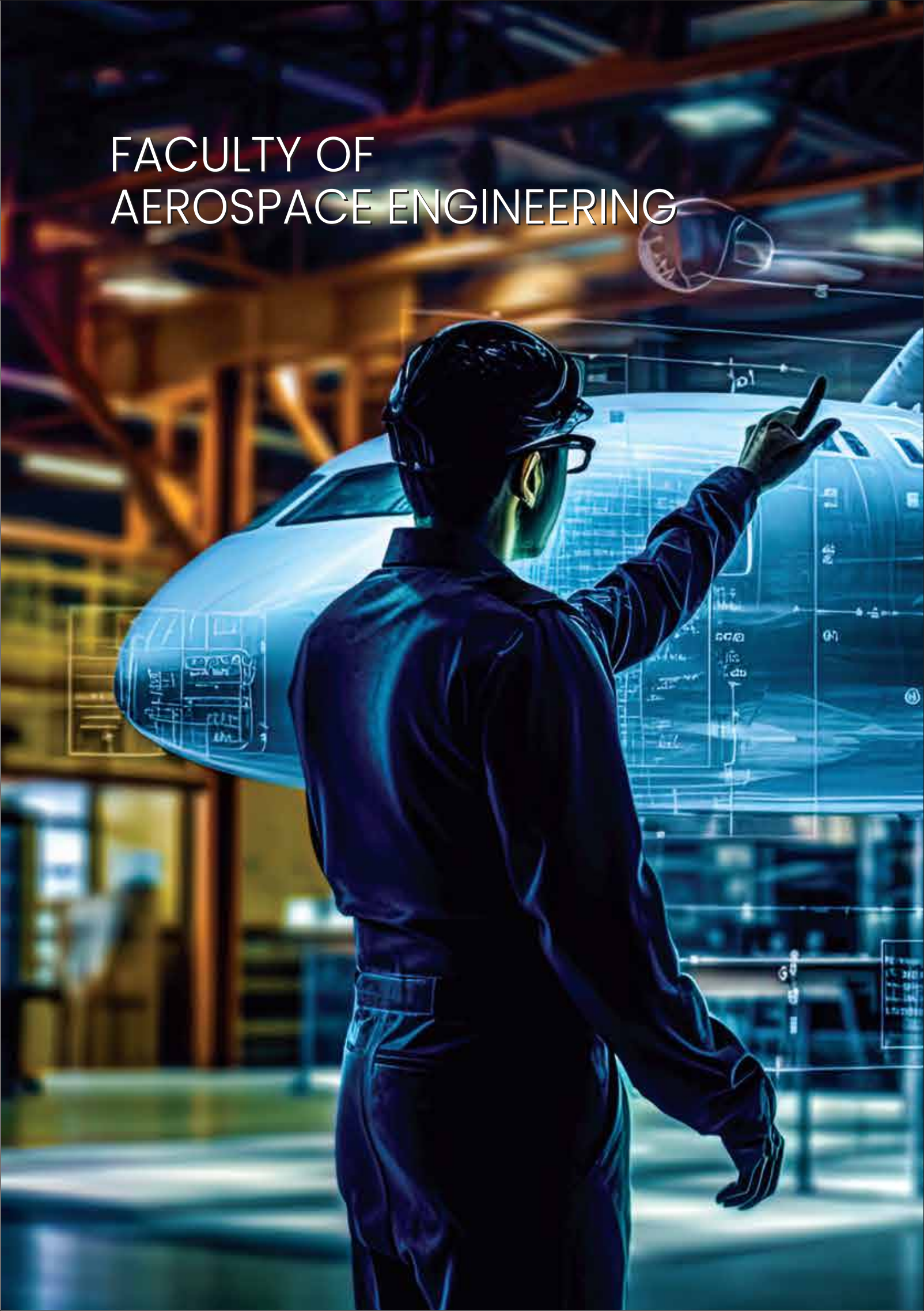
Club Activities

Club Activities

Collaboration

We are imbued with the spirit of the dictum that 'two heads are better than one'. We believe that partnerships promote innovation, especially in the realm of education. Perceiving the idea, globally there is a focus on bridging the knowledge gap to support innovation. Collaboration between universities and industries can help achieve this. We believe that, by working together, higher education institutions and industries can create new solutions to solve problems. Our mission is to improve research output and guarantee that students graduated with a solid academic foundation. We are always flexible to adjust our modus operandi to achieve this, which highlights the importance of partnership among institutions. Partnerships create opportunities for both our institution and students to succeed. Collaborating with the right organizations can create many employment opportunities for our students. The importance of understanding with the right industry partners also lies in the fact that students can experience rapidly changing business practices. Keeping all these in view we signed a number of Memorandum of Understanding (MoU) with several world-renowned Universities and industries in the dominion of aviation and aerospace. To name a few:

Sel No	Name of the Organisations	Signing Date
1.	MoU with Swiss Drone	25 June 20
2.	MoU with AIRBUS Group India	29 Nov 20
3.	LoA with Airbus Defence and Space	08 Dec 20
4.	MoU with BAF Welfare Trust	10 Feb 21
5.	MoU with Northwestern Polytechnic University, China	28 Apr 21
6.	MoU with Civil Aviation Authority of Bangladesh (CAAB)	03 June 21
7.	MoU with Straight Soluvations	10 Aug 21
8.	MoU with University of Dhaka	12 Sep 21
9.	MoU with Cranfield University	29 Oct 21
10.	MoU VITTI-Yasui-Devcon JV	18 Feb 22
11.	MoU with Bridge 2 Bangladesh LLC (B2B)	06 Mar 22
12.	MoU with Pico Satellite	06 Mar 22
13.	MoU University of Kebangsaan Malaysia	07 July 22
14.	MoU with Lalmonirhat Technical School & College	01 Aug 22
15.	MoU with a2i-Aspire to Innovate	10 Aug 22
16.	MoU with Begum Rokeya University, Rangpur	13 Sep 22
17.	MoU with North South University, Bangladesh	18 Dec 22
18.	MoU with School of Aerospace Engineering of La Sapienza University of Rome and Thales Alenia Space Italia	29 May 23
19.	Indian Institute of Technology (IIT), Madras	3 Oct 23
20.	Sky Capital Airlines Limited and Bangla International Airlines Limited	16 Nov 23
21	MoU with Novoair	11 Jan 24
22	MoU with Bangladesh Computer Council (BCC)	06 Feb 24



FACULTY OF AEROSPACE ENGINEERING

Aerospace Engineering

Aerospace Engineering plays a vital role in all fields of modern human activities. It has established themselves as important branch of engineering. These fields at the same time integrate other fields of engineering for application in aerospace. The undergraduate programme provides an excellent technical background for persons who want to work in the field of Aeronautics and Astronautics. In addition to lectures and practical sessions in the classroom, the undergraduate programme also includes industrial training/educational visits to different reputed industries/places both home and abroad. The new generation of Aerospace engineers is encouraged to undertake research and development activities in the above areas and this department is committed to the study and analysis of fundamental as well as applied problems.

The Department of Aerospace Engineering offers the degree of B.Sc. Engineering in Aerospace Engineering. The courses and syllabus followed by this department for the above degree is appropriate to the needs of recent developments in the world and the requirement of local industry. The syllabus is designed to contain all the necessary study materials so that graduates can face engineering problems readily after graduation.

CAREER OPPORTUNITY

- Academia
- Aerospace Engineer
- CAD Specialists
- Aircraft Design Engineer
- Aircraft Manufacturing Systems Engineer
- Aircraft Control System Engineer
- Materials Engineer
- Mechanical Engineer
- Aircraft Testing Specialist
- Military Aviation

PROGRAMME BRIEF

B.Sc. in Aerospace Engineering

The programme includes 40 theory courses, 26 sessional courses including industrial training, Final Year Design Project (FYDP) and Thesis covering 121 and 39 credit hours for theory and sessional respectively. Total credit hours for the programme are 160 in 8 semesters. Undergraduate students of the Department of Aerospace Engineering (ASE) must undertake the following course schedule. The term-wise distribution of which is given below:

> *"The engine is the heart of an airplane, but the pilot is its soul."*
>
> **- Walter Raleigh**

First Year First Semester

Course Code	Course Title	Type	Credit Hours
ASE 4101	Introduction to Aeronautical Engineering	Theory	3.00
MAT 4101	Differential Calculus and Integral Calculus	Theory	3.00
PHY 4101	Physics-1 (Mechanics, Waves and Thermal Physics)	Theory	3.00
CHM 4101	Chemistry (Atomic Structure, Thermo-Chemistry, Chemistry of Engineering Materials)	Theory	3.00
EEE 4191	Electrical Circuit Analysis	Theory	3.00
Subtotal (Theory)			15.00
ASE 4102	Aeronautical Engineering Drawing-I	Sessional	1.50
CHM 4102	Chemistry Sessional	Sessional	1.50
EEE 4192	Electrical Circuits Analysis Sessional	Sessional	1.50
Subtotal (Sessional)			4.50
Total			19.50

First Year Second Semester

Course Code	Course Title	Type	Credit Hours
HUM 4201	Communicative English	Theory	3.00
HUM 4203	Bangladesh Studies and Society	Theory	3.00
MAT 4203	Ordinary and Partial Differential Equations	Theory	3.00
PHY 4201	Physics II (Properties of Matter, Electricity, Magnetism and Modern Physics)	Theory	3.00
CSE 4291	Computer Programming and Application	Theory	3.00
Subtotal (Theory)			15.00
ASE 4202	Workshop Technology Sessional	Sessional	1.50
HUM 4202	Communicative English Sessional (Technical Report Writing and Sessional)	Sessional	0.75
PHY 4202	Physics Sessional	Sessional	1.50
CSE 4292	Computer Programming and Application Sessional	Sessional	1.50
Subtotal (Sessional)			5.25
Total			20.25

Second Year First Semester

Course Code	Course Title	Type	Credit Hours
ASE 4341	Thermodynamics	Theory	3.00
ASE 4355	Engineering Mechanics (Statics and Dynamics)	Theory	4.00
HUM 4313	Engineering Economics and Ethics	Theory	3.00
MAT 4307	Linear Algebra, Coordinate Geometry and Complex Variable	Theory	3.00
EEE 4391	Electrical and Electronics Technology	Theory	3.00
	Subtotal (Theory)		16.00
ASE 4342	Thermodynamics Sessional	Sessional	0.75
ASE 4304	Aeronautical Engineering Drawing II	Sessional	1.50
EEE 4392	Electrical and Electronics Technology Sessional	Sessional	0.75
	Subtotal (Sessional)		3.00
	Total		19.00

Second Year Second Semester

Course Code	Course Title	Type	Credit Hours
ASE 4405	Numerical Methods in Engineering	Theory	3.00
ASE 4411	Fundamentals of Fluid Mechanics	Theory	3.00
ASE 4421	Mechanics of Material	Theory	3.00
ASE 4455	Aerospace Materials	Theory	3.00
MAT 4409	Fourier and Laplace Transform	Theory	3.00
	Subtotal (Theory)		15.00
ASE 4406	Numerical Methods in Engineering Sessional	Sessional	1.50
ASE 4412	Fundamentals of Fluid Mechanics Sessional	Sessional	0.75
ASE 4422	Mechanics of Material Sessional	Sessional	1.50
ASE 4456	Aerospace Materials Sessional	Sessional	0.75
	Subtotal (Sessional)		4.50
	Total		19.50

Third Year First Semester

Course Code	Course Title	Type	Credit Hours
ASE 4513	Aerodynamics	Theory	3.00
ASE 4557	Aerospace Vehicle Dynamics and Control	Theory	3.00
ASE 4533	Aerospace Vehicle Structure	Theory	3.00
ASE 4543	Heat Transfer	Theory	3.00
ASE 4551	Aircraft Systems	Theory	3.00
	Subtotal (Theory)		15.00
ASE 4514	Aerodynamics Sessional	Sessional	1.50
ASE 4534	Aerospace Vehicle Structure Sessional	Sessional	1.50
ASE 4544	Heat Transfer Sessional	Sessional	1.50
ASE 4552	Aircraft Systems Sessional	Sessional	0.75
	Subtotal (Sessional)		5.25
	Total		20.25

Third Year Second Semester

Course Code	Course Title	Type	Credit Hours
ASE 4629	Machine Design	Theory	3.00
ASE 4647	Aerospace Propulsion	Theory	3.00
ASE 4653	Aerospace Vehicle Performance	Theory	3.00
MAT 4601	Probability and Statistics	Theory	3.00
AVE 4639	Control System Engineering	Theory	3.00
	Subtotal (Theory)		15.00
ASE 4630	Machine Design Sessional	Sessional	0.75
ASE 4648	Aerospace Propulsion Sessional	Sessional	1.50
	Subtotal (Sessional)		2.25
ASE 4610	Industrial Training*	Training	1.50
	Subtotal (Sessional)		3.75
	Total		18.75

Note:

ASE 4610 will be conducted after the completion of semester 6, at any convenient time as can be arranged by the Department.

Fourth Year First Semester

Course Code	Course Title	Type	Credit Hours
ASE 4715	Computational Fluid Dynamics	Theory	3.00
ASE 4733	Aero-elasticity and Structural Vibration	Theory	3.00
ASE 4773	Aircraft Design	Theory	3.00
AVE 4709	Aircraft Instruments and Measurement Systems	Theory	3.00
Optional I	Selected from prescribed optional subjects	Theory	3.00
Subtotal (Theory)			15.00
ASE 4774	Aircraft Design Sessional	Sessional	1.50
AVE 4710	Aircraft Instruments and Measurement Systems Sessional	Sessional	0.75
ASE 4700	Final Year Design Project (FYDP) and Thesis	Sessional	3.00+1.50
	Subtotal (Sessional)		6.75
Total			21.75

Fourth Year Second Semester

Course Code	Course Title	Type	Credit Hours
ASE 4815	High Speed Aerodynamics	Theory	3.00
ASE 4807	Industrial and Business Management	Theory	3.00
ASE 4877	Space System and Launch Vehicle Design	Theory	3.00
Optional II	Selected from prescribed optional subjects	Theory	3.00
Optional III	Selected from prescribed optional subjects	Theory	3.00
Subtotal (Theory)			15.00
ASE 4878	Space System and Launch Vehicle Design Sessional	Sessional	1.50
ASE 4700	Final Year Design Project (FYDP) and Thesis	Sessional	1.50+3.00
	Subtotal (Sessional)		6.00
	Total		21.00

Elective Courses

Students of B.Sc. in Aerospace Engineering can choose 3 elective courses covering 9 credit hours. Availability of elective courses is subject to availability of faculty and related laboratory facilities. Elective courses may also be chosen from Allied Engineering courses if permitted from own department.

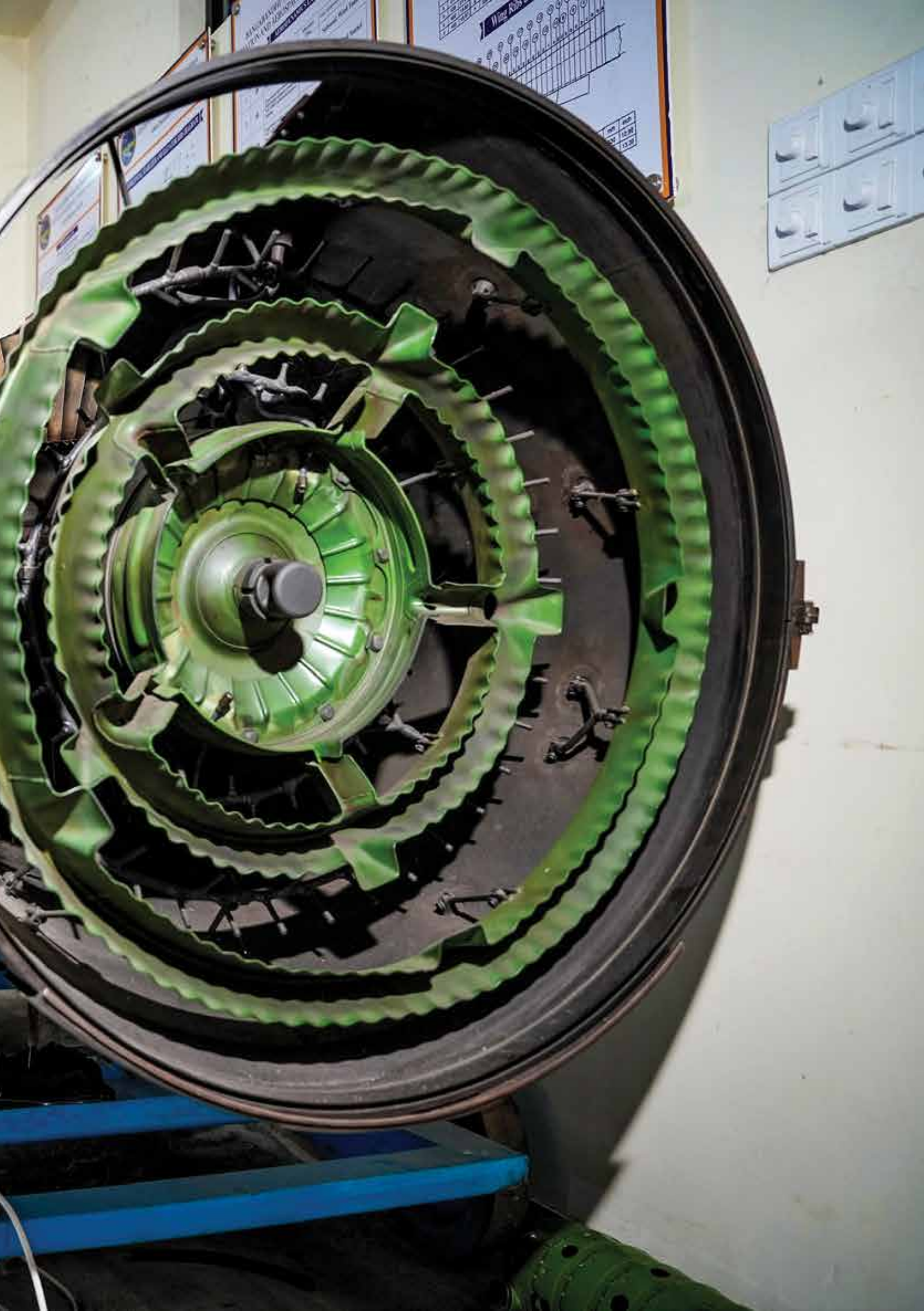
List of Elective Courses from Aerospace Engineering Department

Course Code	Course Name	Semester	Credit Hours
ASE 4717	Hypersonic Aerodynamics	7 or 8	3.00
ASE 4725	Advanced Aerospace Materials Processing Technology	7 or 8	3.00
ASE 4749	Rockets and Missiles	7 or 8	3.00
ASE 4763	Spacecraft Attitude Determination and Control	7 or 8	3.00
ASE 4765	Guidance, Navigation and Control	7 or 8	3.00
ASE 4767	Rotorcraft Performance	7 or 8	3.00
ASE 4785	Maintenance Management and Repair of Aircraft	7 or 8	3.00
ASE 4787	Aircraft Pressurization System	7 or 8	3.00
ASE 4789	Aircraft Structural Design	7 or 8	3.00
ASE 4791	Feedback Control System	7 or 8	3.00
ASE 4792	Feedback Control System Sessional	7 or 8	0.75
ASE 4793	Aerospace Systems Engineering	7 or 8	3.00
ASE 4795	Turbo-machinery	7 or 8	3.00
ASE 4797	Orbital Mechanics	7 or 8	3.00
ASE 4799	Finite Element Analysis	7 or 8	3.00
MCE 4743	Advanced Programming with MATLAB	7 or 8	3.00
MCE 4763	Fundamentals of Nano-engineering	7 or 8	3.00
MCE 4765	Introduction to Robotics	7 or 8	3.00
MCE 4767	Mechatronics	7 or 8	3.00
MCE 4769	Product Design	7 or 8	3.00
MCE 4771	Renewable Energy	7 or 8	3.00
MCE 4773	Combustion and Pollution	7 or 8	3.00
MCE 4775	Energy and Environment	7 or 8	3.00

Final Year Design Project (FYDP) and Undergraduate Research (Thesis)

Final Year Design Project (FYDP) and undergraduate research will have to be undertaken by students under a supervisor in partial fulfilment of the requirement of his degree. Credit hours allotted to the Final Year Design Project (FYDP) and undergraduate research (thesis) will be 9 having 18 contact hours.

FACULTY OF AVIONICS ENGINEERING



Avionics Engineering

Avionics Engineering focuses on the design, development, and integration of electronic systems for aerospace applications. It combines principles of electronics, control systems, and communication engineering to ensure efficient and safe aircraft operations. The undergraduate programme equips students with a strong technical foundation, blending theoretical learning with practical applications. It includes industrial training and visits to esteemed organizations, both locally and internationally. The department fosters innovation, encouraging students to engage in research and development of cutting-edge avionics systems.

CAREER OPPORTUNITY

- Aircraft Systems Engineer
- Unmanned Aerial Vehicle (UAV) Specialist
- Avionics Maintenance Engineer
- Flight Simulation Engineer
- Avionics Integration Specialist

PROGRAMME BRIEF

B.Sc. in Avionics Engineering

The detailed course plan for B.Sc. in Avionics Engineering is presented below. The programme includes 39 theory courses and 31 sessional courses covering 117 and 43 credit hours for theory and sessional respectively. Total credit hours for the programme are 160 in 8 semesters.

Undergraduate students of the Department of Avionics Engineering (AVE) must undertake the following course schedule, the semester-wise distribution of which is given below:

> *"Innovation in avionics is the pulse of progress in aerospace engineering."*
>
> — Dr. John Doe

First Year First Semester

Course Code	Course Title	Type	Credit Hours
PHY 4101	Physics	Theory	3.00
AVE 4101	Electrical Circuits Analysis I	Theory	3.00
MAT 4101	Differential and Integral Calculus	Theory	3.00
ASE 4101	Introduction to Aeronautical Engineering	Theory	3.00
HUM 4101	Communicative English	Theory	3.00
Subtotal (Theory)			15.00
PHY 4102	Physics Sessional	Sessional	1.50
AVE 4102	Electrical Circuits Analysis I Sessional	Sessional	1.50
ASE 4102	Aeronautical Engineering Drawing	Sessional	1.50
HUM 4102	Communicative English Sessional (Technical Report Writing)	Sessional	1.50
Subtotal (Sessional)			6.00
Total			21.00

First Year Second Semester

Course Code	Course Title	Type	Credit Hours
AVE 4203	Electrical Circuits Analysis II	Theory	3.00
CHM 4201	Chemistry	Theory	3.00
MAT 4203	Ordinary and Partial Differential Equations	Theory	3.00
CSE 4201	Computer Programming and Application	Theory	3.00
HUM 4203	Bangladesh Studies and Society	Theory	3.00
Subtotal (Theory)			15.00
AVE 4204	Electrical Circuits Analysis II Sessional	Sessional	0.75
CHM 4202	Chemistry Sessional	Sessional	1.50
ASE 4202	Workshop Technology Sessional	Sessional	1.50
CSE 4202	Computer Programming and Application Sessional	Sessional	1.50
Subtotal (Sessional)			5.25
Total			20.25

Second Year First Semester

Course Code	Course Title	Type	Credit Hours
AVE 4301	Electronic Circuit I	Theory	3.00
ASE 4341	Thermodynamics	Theory	3.00
ASE 4355	Engineering Mechanics (Statics and Dynamics)	Theory	4.00
MAT 4305	Linear Algebra, Coordinate Geometry and Complex Variables	Theory	3.00
CSE 4305	Data Structures and Algorithm	Theory	3.00
	Subtotal (Theory)		16.00
AVE 4302	Electronic Circuit I Sessional	Sessional	1.50
ASE 4342	Thermodynamics Sessional	Sessional	0.75
CSE 4306	Data Structures and Algorithm Sessional	Sessional	1.50
	Subtotal (Sessional)		3.75
	Total		19.75

Second Year Second Semester

Course Code	Course Title	Type	Credit Hours
AVE 4401	Electronic Circuits II	Theory	3.00
AVE 4403	Electric Machines and Drives	Theory	3.00
MAT 4407	Fourier and Laplace Transform	Theory	3.00
AVE 4405	Digital Logic and Computer Design	Theory	3.00
HUM 4413	Engineering Economics	Theory	3.00
	Subtotal (Theory)		15.00
AVE 4402	Electronic Circuits II Sessional	Sessional	1.50
AVE 4404	Electric Machines and Drives Sessional	Sessional	1.50
AVE 4406	Digital Logic and Computer Design	Sessional	1.50
	Subtotal (Sessional)		4.50
	Total		19.50

Third Year First Semester

Course Code	Course Title	Type	Credit Hours
AVE 4501	Signals and Systems	Theory	3.00
AVE 4503	Microprocessor and Microcontroller Systems	Theory	3.00
AVE 4505	Electromagnetic Field Theory	Theory	3.00
ASE 4513	Aerodynamics	Theory	3.00
MAT 4509	Probability and Statistics	Theory	3.00
Subtotal (Theory)			15.00
AVE 4502	Signals and Systems Sessional	Sessional	0.75
AVE 4504	Microprocessor and Microcontroller Systems Sessional	Sessional	0.75
AVE 4510	Modelling and Simulation Sessional	Sessional	1.50
ASE 4514	Aerodynamics Sessional	Sessional	1.50
Subtotal (Sessional)			4.50
Total			19.50

Third Year Second Semester

Course Code	Course Title	Type	Credit Hours
AVE 4601	Communication Systems	Theory	3.00
AVE 4603	Real Time Embedded Systems	Theory	3.00
AVE 4605	Microwave and Antennas	Theory	3.00
AVE 4607	Numerical Methods	Theory	3.00
AVE 4609	Control Systems	Theory	3.00
Subtotal (Theory)			15.00
AVE 4600	Industrial Training	Sessional	1.00
AVE 4602	Communication Systems Sessional	Sessional	1.50
AVE 4604	Real Time Embedded Systems Sessional	Sessional	0.75
AVE 4608	Numerical Methods Sessional	Sessional	0.75
AVE 4610	Control Systems Sessional	Sessional	0.75
	Subtotal (Sessional)		4.75
Total			19.75

Fourth Year First Semester

Course Code	Course Title	Type	Credit Hours
AVE 4701	Digital Signal Processing	Theory	3.00
AVE 4703	Aircraft Electrical, Instrument and Autopilot Systems	Theory	3.00
AVE 4705	Avionics System Design	Theory	3.00
AVE 4707	Engineering Ethics and Professionalism	Theory	2.00
AVE 47XX	Elective - I	Theory	3.00
	Subtotal (Theory)		14.00
AVE 4702	Digital Signal Processing Sessional	Sessional	0.75
AVE 4704	Aircraft Electrical, Instrument and Autopilot Systems Sessional	Sessional	1.50
AVE 4706	Avionics System Design Sessional	Sessional	0.75
AVE 4700	Final Year Research and Design Project (FYRDP)	Sessional	4.50
	Subtotal (Sessional)		7.50
	Total		21.50

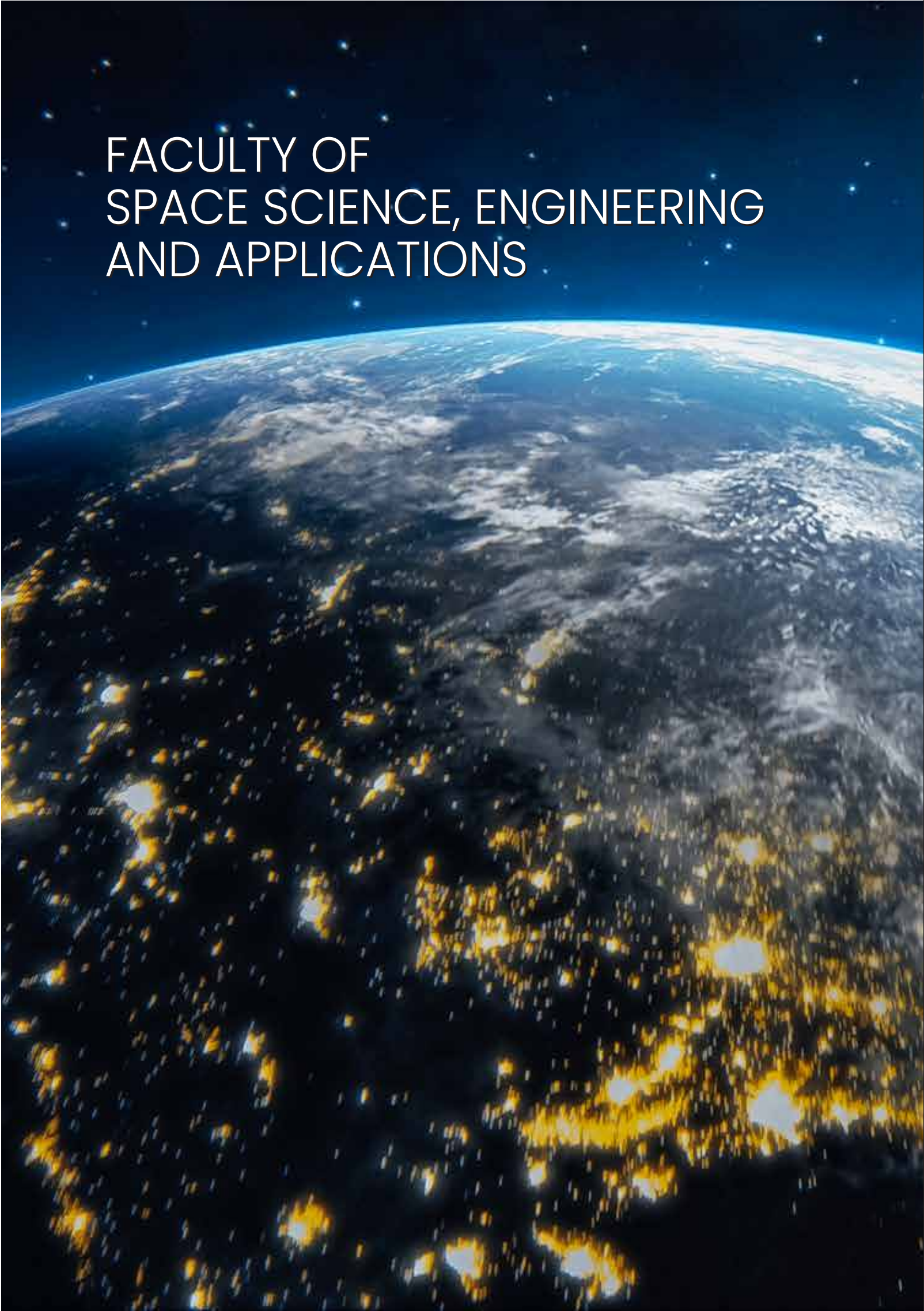
Fourth Year Second Semester

Course Code	Course Title	Type	Credit Hours
AVE 4801	Radar System Engineering	Theory	3.00
AVE 4803	Aircraft Communication, Navigation and Surveillance System	Theory	3.00
ASE 4807	Industrial and Business management	Theory	3.00
AVE 48XX	Elective - II	Theory	3.00
	Subtotal (Theory)		12.00
AVE 4802	Radar System Engineering Sessional	Sessional	1.50
AVE 4804	Aircraft Communication, Navigation and Surveillance System Sessional	Sessional	1.50
AVE 48XX	Elective - II Sessional	Sessional	0.75
AVE 4700	Final Year Research and DesignProject (FYRDP)	Sessional	4.50
	Subtotal (Sessional)		8.25
	Total		20.25

List of Elective Courses from Avionics Engineering

Course Code	Course Name	Type	Credit Hours
AVE 4721	Avionics Software Design	Theory	3.00
AVE 4723	Autonomous Systems, Guidance and Control	Theory	3.00
AVE 4725	Robotics and Mechatronics	Theory	3.00
AVE 4729	Remote Sensing and Digital Image Processing	Theory	3.00
AVE 4731	Avionics Human Factors Engineering	Theory	3.00
AVE 4733	RF Integrated Circuit	Theory	3.00
CSE 4781	Machine Learning	Theory	3.00
CSE 4783	Artificial Intelligence	Theory	3.00
CSE 4785	Introduction to Quantum Computing	Theory	3.00
ASE 4557	Aerospace Vehicle Dynamics and Control	Theory	3.00
ASE 4797	Orbital Mechanics	Theory	3.00
AVE 4821	Introduction to Satellite Communication Engineering	Theory	3.00
AVE 4823	Space Avionics	Theory	3.00
AVE 4825	VLSI Design	Theory	3.00
AVE 4827	Optical Fiber Communication System	Theory	3.00
AVE 4829	Avionics Cyber Security	Theory	3.00
AVE 4831	Wireless Communication	Theory	3.00
ASE 4551	Aircraft Systems	Theory	3.00
AVE 4822	Introduction to Satellite Communication Engineering Sessional	Sessional	0.75
AVE 4824	Space Avionics Sessional	Sessional	0.75
AVE 4826	VLSI Design Sessional	Sessional	0.75
AVE 4828	Optical Fiber communication system Sessional	Sessional	0.75
AVE 4830	Avionics Cyber Security Sessional	Sessional	0.75
AVE 4832	Wireless Communication Sessional	Sessional	0.75
ASE 4552	Aircraft Systems Sessional	Sessional	0.75

FACULTY OF SPACE SCIENCE, ENGINEERING AND APPLICATIONS



SPACE SYSTEM ENGINEERING (SSE)

Space System Engineering is a multidisciplinary field that focuses on the design, development, and management of complex space systems. This area of engineering encompasses a wide range of activities, including the integration of various subsystems such as propulsion, communication, and power management, to ensure that they function cohesively within the overall system. The process involves rigorous analysis and modeling to predict system performance, as well as the application of systems engineering principles to address challenges related to reliability, safety, and mission success.

The discipline requires a comprehensive understanding of both the technical and operational aspects of space missions. Engineers must consider factors such as orbital mechanics, environmental conditions, and the specific requirements of the mission when designing space systems. Additionally, collaboration among diverse teams, including scientists, engineers, and project managers, is essential to navigate the complexities of space exploration and satellite deployment. This collaborative approach facilitates the identification of potential risks and the development of mitigation strategies, ultimately enhancing the likelihood of mission success.

Space System Engineering is increasingly influenced by advancements in technology and the growing demand for commercial space activities. The emergence of new materials, innovative propulsion systems, and advanced software tools has transformed the landscape of space engineering, enabling more ambitious missions and reducing costs. As the field continues to evolve, engineers must remain adaptable and forward-thinking, integrating cutting-edge technologies while adhering to established engineering principles. This dynamic environment presents both challenges and opportunities, underscoring the importance of continuous learning and innovation in the pursuit of successful space endeavors.

CAREER OPPORTUNITY

- Spacecraft Design Engineer
- Spacecraft Operations Specialist
- Space Mission Planner
- Space Systems Integration Engineer
- Space Research Scientist

PROGRAMME BRIEF

Masters in Space Systems Engineering

The increasing global interest in space exploration and technology underscores the importance of a postgraduate degree in Space Systems Engineering for addressing the future demand for qualified professionals in this sector. The Master's programme in Space Systems Engineering offers a comprehensive curriculum that encompasses both theoretical knowledge and practical skills across various domains of space engineering and technology. This educational framework is designed to ensure that graduates possess the competencies required for advanced roles in the industry or for pursuing research opportunities. A student must complete a minimum of 36 credit hours of which 18 credit shall be assigned to a thesis for acquiring Master of Science in Space Systems Engineering (SSE) Degree.

> *"The Earth is the cradle of humanity, but mankind cannot stay in the cradle forever."*
>
> - Konstantin Tsiolkovsky

Course Outline for Master of Science in Space Systems Engineering, M.Sc. (SSE)

Course Code	Course Title	Credit Hours
	Core Courses	
SSE 6101	Space Dynamics and Missions	3
SSE 6103	Space System Design	3
SSE 6205	Spacecraft Structures and Mechanisms	3
SSE 6000	Thesis	18
SSE 6004	Research Methodology and Seminar	Non credit
	Total	27
	Optional (Any 3)	
Group 1: Departmental Course (Choose 2)		
SSE 6121	Advanced Engineering Mathematics	3
SSE 6123	Hypersonic & High Temperature Gas Dynamics	3
SSE 6125	Rarefied Gas Dynamics	3
SSE 6227	Advanced Guidance, Navigation and Control	3
SSE 6229	Launch Vehicles and Propulsion	3
SSE 6100	Selected Course in Space System Engineering	3
Group 2: Non-departmental Course (Choose 1)		
SCN 6101	Satellite Communications - 1	3
SCN 6203	Satellite Communications - 2	3
SCN 6121	Satellite Remote Sensing	3
SCN 6123	Antennas and Propagation	3
SCN 6125	RF Systems and Circuit Design	3
SCN 6127	Space Environment and Protection	3
SCN 6129	Principles of Telecom and Packet Networks	3
SCN 6231	Space Avionics	3
SCN 6233	Ground Systems and Mission Design	3
	Total	9
	Grand Total	**36**

SPACE COMMUNICATION AND NAVIGATION TECHNOLOGY

In view of global necessity, it is clear that postgraduate degree in Satellite Communication Engineering will play an important role to meet the future demand of highly professional individuals in this field. The national and international requirement of professionals in the field of Satellite Communication Engineering is increasing day by day both in developing, and developed countries. From this perspective, it is of vital importance to offer post graduate level high quality education to the next generation of satellite communication engineers. The Master's programme in Satellite Communication Engineering offers students deep knowledge and functional skills in most fields of relevance for space communication and navigation technology. After graduation, students will be well prepared for future positions within the advanced professional arena, or in a space communication and navigation technology research environment.

CAREER OPPORTUNITY

- Satellite Communication Engineer
- Navigation Systems Specialist
- Deep Space Network Engineer
- Spacecraft Systems Engineer
- Ground Station Operations Manager

PROGRAMME BRIEF

Masters in Satellite Communication Engineering

A student must complete a minimum of 36 credit hours of which 18 credit hours shall be assigned for a thesis for acquiring Masters in Satellite Communication Engineering degree. Students can register thesis after completion of at least 12 credit hours theory courses.

> *"Satellite communication engineering bridges the vast expanse of space, bringing the world closer together."*
>
> — Dr. Jane Smith

Course Code	Course Title	Credit Hours
	Core Courses	
SCN 6101	Satellite Communications – 1	3
SCN 6203	Satellite Communications - 2	3
SSE 6103	Space System Design	3
SCN 6000	Thesis	18
SCN 6004	Research Methodology and Seminar	Non credit
	Total	27
	Optional (Any 3)	
Group 1: Departmental Course (Any 2)		
SCN 6121	Satellite Remote Sensing	3
SCN 6123	Antennas and Propagation	3
SCN 6125	RF Systems and Circuit Design	3
SCN 6127	Space Environment and Protection	3
SCN 6129	Principles of Telecom and Packet Networks	3
SCN 6131	Advanced Guidance, Navigation and Control	3
SCN 6231	Space Avionics	3
SCN 6233	Ground Systems and Mission Design	3
SCN 6100	Selected Course in Satellite Communication Engineering	3
Group 2: Non-departmental Course (Any 1)		
SSE 6101	Space Dynamics and Missions	3
SSE 6121	Advanced Engineering Mathematics	3
SSE 6123	Hypersonic and High Temperature Gas Dynamics	3
SSE 6125	Rarefied Gas Dynamics	3
SSE 6205	Spacecraft Structures and Mechanisms	3
SSE 6229	Launch Vehicles and Propulsion	3
	Total	9
	Grand Total	36

PROGRAMME BRIEF

Masters of Engineering (M. Engg.) in Satellite Communication Engineering (SCE)

> *To infinity and beyond!*
>
> **- Buzz Lightyear**

A student must complete a minimum of 36 credit hours of which 18 credit hours shall be assigned for a thesis for acquiring M.Engg degree. Students can register project after completion of at least 12 credit hours theory courses.

Course Code	Course Title	Credit Hours
	Core Courses	
SCN 6101	Satellite Communications – 1	3
SCN 6203	Satellite Communications - 2	3
SSE 6103	Space System Design	3
SCN 6002	Project	6
SCN 6004	Research Methodology and Seminar	Non credit
	Total	15

Optional (Any 7)		
Group 1: Departmental Course (Any 4)		
SCN 6121	Satellite Remote Sensing	3
SCN 6123	Antennas and Propagation	3
SCN 6125	RF Systems and Circuit Design	3
SCN 6127	Space Environment and Protection	3
SCN 6129	Principles of Telecom and Packet Networks	3
SCN 6131	Advanced Guidance, Navigation and Control	3
SCN 6231	Space Avionics	3
SCN 6233	Ground Systems and Mission Design	3
SCN 6100	Selected Course in Satellite Communication Engineering	3
Group 2: Non-departmental Course (Any 3)		
SSE 6101	Space Dynamics and Missions	3
SSE 6121	Advanced Engineering Mathematics	3
SSE 6123	Hypersonic and High Temperature Gas Dynamics	3
SSE 6125	Rarefied Gas Dynamics	3
SSE 6205	Spacecraft Structures and Mechanisms	3
SSE 6229	Launch Vehicles and Propulsion	3
	Total	21
	Grand Total	36

FACULTY OF AVIATION OPERATIONS AND MAINTENANCE

Aircraft Maintenance Engineering (Aerospace)

Aircraft Maintenance Engineering (AME) ensures the safety, reliability, and efficiency of aircraft operations. This field involves the inspection, repair, and maintenance of aircraft components, including airframes, engines, and avionics systems. With the aviation industry's growth, the demand for qualified AME professionals continues to rise. Recognizing this need, AAUB offers a B.Sc. in Aircraft Maintenance Engineering programme, addressing the lack of academic degrees in this field in Bangladesh. Launched in 2022-23, this programme equips students with comprehensive technical skills and managerial expertise, preparing them for careers in international airlines, aircraft manufacturing, defense sectors, and aviation maintenance services.

CAREER OPPORTUNITY

- Licensed Aircraft Maintenance Engineer (LAME)
- Technical Services Engineer (Aviation)
- Maintenance Planner (Aerospace)
- Aerospace Technician
- Quality Assurance Inspector (Aviation)

PROGRAMME BRIEF

B.Sc. in Aircraft Maintenance Engineering (Aerospace)

> *Take care of your tools and they will take care of you.*
>
> - Benjamin Franklin

The list of courses offered to the Undergraduate students of Aircraft Maintenance Engineering (AME) is categorised into Core courses and Elective courses. Some of the core courses are offered by the Department of AME and some of these are offered by other departments. Students have the flexibility to choose from the Optional/Elective courses.

Semester 1

Course Code	Course Name	Type of Course	Credit
HUM 4101	Communicative English	Theory	3.00
MATH 4101	Mathematics-I (Arithmetic, Algebra, Geometry, Vector, Matrices)	Theory	4.00
CHEM 4101	Chemistry	Theory	3.00
ARO 4101	Introduction to Aircraft Maintenance Engineering	Theory	2.00
CSE 4101	Introduction to Computer Applications and Programming	Theory	3.00
	Subtotal (Theory)		15.00
HUM 4102	Communicative English Skills Lab	Sessional	1.50
CHEM 4102	Chemistry Sessional	Sessional	1.50
CSE 4102	Introduction to Computer Applications and Programming (Sessional)	Sessional	1.50
ARO 4102	Engineering Drawing	Sessional	1.50
	Subtotal (Sessional)		6.00
	Total		**21.00**

Semester 2

Course Code	Course Name	Type of Course	Credit
MATH 4201	Mathematics II (Differential and Integral Calculus, ODE and PDE)	Theory	4.00
PHY 4201	Physics	Theory	3.00
AVO 4291	Electrical Fundamentals-1 (DC and AC Circuits)	Theory	4.00
AVO 4293	Electronics Fundamentals	Theory	3.00
HUM 4211	Accounting and Economics	Theory	3.00
	Subtotal (Theory)		17.00
AVO 4292	Electrical Fundamental-I Sessional	Sessional	1.50
PHY 4202	Physics Sessional	Sessional	1.50
AVO 4294	Electronics Fundamentals Sessional	Sessional	1.50
	Subtotal (Sessional)		4.50
	Total		**21.50**

Semester 3

Course Code	Course Name	Type of Course	Credit
MATH 4301	Communicative English	Theory	4.00
ARO 4301	Mathematics-I (Arithmetic, Algebra, Geometry, Vector, Matrices)	Theory	3.00
AVO 4391	Chemistry	Theory	3.00
ARO 4307	Introduction to Aircraft Maintenance Engineering	Theory	4.00
AVO 4393	Introduction to Computer Applications and Programming	Theory	3.00
	Subtotal (Theory)		17.00
ARO 4302	Fluid Mechanics Sessional	Sessional	0.75
AVO 4394	Digital Technique-I Sessional	Sessional	1.00
AVO 4392	Electrical Fundamental-II (Electrical Machines) Sessional	Sessional	1.50
ARO 4308	Materials & Hardware -I Sessional	Sessional	1.50
	Subtotal (Sessional)		4.75
	Total		**21.75**

Semester 4

Course Code	Course Name	Type of Course	Credit
AVO 4493	Digital Technique II (Electronic Instrument System)	Theory	33.00
ARO 4411	Basic Aerodynamics	Theory	3.00
ARO 4403	Thermodynamics	Theory	3.00
ARO 4405	Maintenance Practices I	Theory	4.00
ARO 4407	Materials & Hardware - II	Theory	4.00
	Subtotal (Theory)		17.00
AVO 4494	Digital Technique-II Sessional	Sessional	1.00
ARO 4406	Maintenance Practices Sessional I	Sessional	1.50
ARO 4408	Materials & Hardware Sessional II	Sessional	1.00
ARO 4404	Thermodynamics Sessional	Sessional	0.75
ARO 4412	Aerodynamics Sessional	Sessional	0.75
	Subtotal (Sessional)		5.00
	Total		**22.00**

Semester 5

Course Code	Course Name	Type of Course	Credit
ARO 4501	Maintenance Practices II	Theory	4.00
ARO 4505	Aircraft Structure	Theory	4.00
ARO 4503	Aircraft Systems-I	Theory	3.00
AVO 4591	Avionics System	Theory	4.00
	Subtotal (Theory)		15.00
ARO 4502	Maintenance Practices Sessional II	Sessional	1.50
ARO 4506	Aircraft Structure Sessional	Sessional	1.50
ARO 4504	Aircraft Systems Sessional-I	Sessional	1.00
AVO 4592	Avionics System Sessional	Sessional	1.00
ARO 4500	Industrial Training-I on Dead & Live Aircraft	Sessional	0.5
	Subtotal (Sessional)		5.50
	Total		**20.50**

Semester 6

Course Code	Course Name	Type of Course	Credit
ARO 4603	Gas Turbine Engine-I	Theory	3.00
ARO 4605	Fluid Power and Systems	Theory	3.00
ARO 4609	Aircraft Systems-II	Theory	3.00
ARO 4611	Turbine Aeroplane Aerodynamics	Theory	3.00
AVO 4691	Modern Avionics System	Theory	3.00
	Subtotal (Theory)		15.00
ARO 4604	Gas Turbine Engine-I Sessional	Sessional	1.00
ARO 4606	Fluid Power and Systems Sessional	Sessional	1.00
ARO 4610	Aircraft Systems Sessional-II	Sessional	1.50
ARO 4612	Turbine Aeroplane Aerodynamics Sessional	Sessional	0.75
AVO 4692	Modern Avionics System Sessional	Sessional	1.00
ARO 4600	Industrial Training-II on Dead & Live Aircraft	Sessional	0.50
	Subtotal (Sessional)		5.75
	Total		**20.75**

Semester 7

Course Code	Course Name	Type of Course	Credit
ARO 4701	Human Factors	Theory	3.00
ARO 4705	Gas Turbine Engine-II	Theory	3.00
ARO 4709	Aviation Legislation-I	Theory	4.00
ARO 4711	Propeller Theory	Theory	4.00
ARO 47XX	Elective I	Theory	3.00
	Subtotal (Theory)		17.00
ARO 4700	Thesis and FYDP	Sessional	3.00
ARO 4706	Gas Turbine Engine-II Sessional	Sessional	1.00
ARO 4712	Propeller Sessional	Sessional	1.50
	Subtotal (Sessional)		5.50
	Total		**22.50**

Semester 8

Course Code	Course Name	Type of Course	Credit
HUM 4801	Engineering Ethics & Professionalism	Theory	2.00
ARO 4809	Aviation Legislation-II	Theory	4.00
HUM 4803	History of the Emergence of Independent Bangladesh	Theory	2.00
ARO 48XX	Elective II	Theory	3.00
	Subtotal (Theory)		11.00
ARO 4700	Thesis and FYDP	Sessional	3.00
	Subtotal (Sessional)		3.00
	Total		**14.00**

Note:
* Students can choose from Elective/Optional courses offered by the Department of Aircraft Maintenance Engineering (Aerospace).

List of Elective/Optional Courses Offered by AME (Aerospace) Department

Course Code	Course Name	Semester	Credit Hours
ARO 4757	Helicopter Aerodynamics, Structures and Systems	7	3
ARO 4723	High Speed Aerodynamics	7	3
ARO 4821	Computational Fluid Dynamics	8	3
ARO 4825	Introduction to CAMO	8	3
ARO 4827	Composite Material	8	3
ARO 4829	Statistics for Engineers and Reliability Analysis	8	3
ARO 4839	Quality Management Systems and Aviation Standard	8	3
ARO 4831	Aircraft Maintenance Management	8	3
ASE 4891	Finite Element Method	8	3

Undergraduate Thesis/Final Year Design Project (FYDP)

Undergraduate Thesis/FYDP (Capstone Project) will have to be undertaken by students under a supervisor in partial fulfilment of the requirement of his degree. Credit allotted to the undergraduate Thesis/FYDP will be 6 having 12 contact hours.

Aircraft Maintenance Engineering (Avionics)

CAREER OPPORTUNITY

- Academic
- Aviation Safety Inspector
- Aircraft Technical Instructor
- Aviation Lead Engineer
- Flight Mechanics Engineer
- Aircraft Supervisor
- Aircraft Maintenance Engineer
- Aviation Professionals
- Aircraft Cabin IT System Expert

Avionics Engineering is at the core of modern aerospace innovation, specializing in the design, integration, and maintenance of electronic systems for aviation and space applications. This interdisciplinary field combines principles of electronics, communication, and control systems, playing a crucial role in the safe and efficient operation of aircraft and spacecraft. The undergraduate programme in Avionics Engineering provides a robust technical foundation through lectures, hands-on laboratory work, and industrial training. Students gain exposure to advanced avionics technologies, with opportunities for educational visits to renowned organizations globally. Encouraging innovation and research, the department aims to prepare graduates for leadership roles in aviation, defense, and space industries, fostering a new generation of experts in this rapidly evolving field.

PROGRAMME BRIEF

B.Sc. in Aircraft Maintenance Engineering (Avionics)

Undergraduate students of the B.Sc. in Aircraft Maintenance Engineering (Avionics) must undertake the following course schedule, the semester-wise distribution of which is given below. EASA/CAAB module courses are integrated in Semester 1 to Semester 8. The courses mentioned in these Semester will be conducted serially on modular basis.

> *"Aircraft maintenance engineering ensures the skies remain safe for all who traverse them."*
>
> - Dr. Richard Green

Semester 1

Course Code	Course Name	Type of Course	Credit
AVO 4101	Introduction to Aircraft Maintenance Engineering	Theory	2.00
CSE 4101	Introduction to Computer Applications and Programming	Theory	3.00
HUM 4101	Communicative English	Theory	3.00
MATH 4101	Mathematics-I (Arithmetic, Algebra, Geometry, Vector, Matrices)	Theory	4.00
CHEM 4101	Chemistry	Theory	3.00
	Subtotal (Theory)		15.00
CSE 4102	Introduction to Computer Applications and Programming (Sessional)	Sessional	1.50
HUM 4102	Communicative English Sessional	Sessional	1.50
CHEM 4102	Chemistry Sessional	Sessional	1.50
	Subtotal (Sessional)		4.50
	Total		**19.50**

Semester 2

Course Code	Course Name	Type of Course	Credit
MATH 4201	Mathematics II (Differential and Integral Calculus, ODE and PDE)	Theory	4.00
PHY 4201	Physics	Theory	3.00
AVO 4201	Electrical Fundamentals-I (AC & DC)	Theory	4.00
HUM 4201	History of the Emergence of Independent Bangladesh	Theory	2.00
HUM 4203	Accounting and Economics	Theory	3.00
	Subtotal (Theory)		16.00
AVO 4202	Electrical Fundamentals-I Sessional	Sessional	1.50
PHY 4202	Physics Sessional	Sessional	1.50
ARO 4290	Aircraft Maintenance Engineering Drawing Sessional	Sessional	0.75
	Subtotal (Sessional)		3.75
	Total		**19.75**

Semester 3

Course Code	Course Name	Type of Course	Credit
MATH 4301	Mathematics III (Laplace, Fourier Series, Complex variables and Statistics)	Theory	4.00
AVO 4301	Electrical Fundamental-II (Machines)	Theory	3.00
AVO 4303	Electronics Fundamentals -I	Theory	3.00
AVO 4305	Digital Technique and Instruments I	Theory	3.00
ARO 4391	Materials and Hardware-I	Theory	3.00
	Subtotal (Theory)		16.00
AVO 4302	Electrical Fundamental-II (Machines) Sessional	Sessional	1.50
AVO 4304	Electronics Fundamentals -I Sessional	Sessional	1.50
AVO 4306	Digital Technique Instruments Sessional I	Sessional	1.50
ARO 4392	Materials and Hardware-I Sessional	Sessional	0.75
	Subtotal (Sessional)		5.25
	Total		**21.25**

Semester 4

Course Code	Course Name	Type of Course	Credit
AVO 4401	Digital Technique and Instruments II	Theory	3.00
AVO 4403	Electronics Fundamentals-II	Theory	3.00
ARO 4491	Basic Aerodynamics	Theory	3.00
ARO 4493	Materials and Hardware-II	Theory	3.00
ARO 4495	Maintenance Practices-I	Theory	3.00
	Subtotal (Theory)		15.00
AVO 4402	Electronics Fundamentals II Sessional	Sessional	1.50
AVO 4404	Digital Technique Instruments Sessional II	Sessional	1.50
ARO 4492	Aerodynamics Sessional	Sessional	1.50
ARO 4494	Materials and Hardware-II Sessional	Sessional	0.75
ARO 4496	Maintenance Practices Sessional I	Sessional	0.75
	Subtotal (Sessional)		6.00
	Total		**21.00**

Semester 5

Course Code	Course Name	Type of Course	Credit
AVO 4501	Digital Technique and Instruments III (Computer, Microprocessor and Microcontroller)	Theory	3.00
AVO 4503	Aircraft Electro-Hydraulic Systems	Theory	3.00
AVO 4505	Aircraft Communication Systems	Theory	4.00
AVO 4507	Aircraft Instrument Systems I	Theory	3.00
ARO 4595	Maintenance Practices-II	Theory	2.00
	Subtotal (Theory)		15.00
AVO 4502	Digital Technique and Instruments III (Computer, Microprocessor and Microcontroller) Sessional	Sessional	1.50
AVO 4504	Aircraft Electro-Hydraulic Systems Sessional	Sessional	0.75
AVO 4506	Aircraft Communication Systems Sessional	Sessional	1.50
AVO 4508	Aircraft Instrument systems I Sessional	Sessional	1.50
ARO 4596	Maintenance Practices Sessional II	Sessional	0.75
AVO 4500	Industrial Training-I on Dead and Live Aircraft	Sessional	0.50
	Subtotal (Sessional)		6.50
	Total		**21.50**

Semester 6

Course Code	Course Name	Type of Course	Credit
AVO 4601	Aircraft Propulsion	Theory	4.00
AVO 4603	Aircraft Modern Electronic Systems	Theory	3.00
AVO 4605	Aircraft Navigation Systems	Theory	3.00
AVO 4607	Aircraft Instrument Systems II	Theory	3.00
ARO 4691	Theory of Flight, Aircraft Structures, and Furnishing	Theory	3.00
	Subtotal (Theory)		16.00
AVO 4602	Aircraft Propulsion Sessional	Sessional	1.50
AVO 4604	Aircraft Modern Electronic Systems Sessional	Sessional	0.75
AVO 4606	Aircraft Navigation Systems Sessional	Sessional	1.50
AVO 4608	Aircraft Instrument systems II Sessional	Sessional	0.75
ARO 4692	Theory of Flight, Aircraft Structures, and Furnishing (Sessional)	Sessional	0.75
AVO 4600	Industrial Training-II on Dead and Live Aircraft	Sessional	0.50
	Subtotal (Sessional)		5.75
	Total		**21.75**

Semester 7

Course Code	Course Name	Type of Course	Credit
AVO 4701	Automatic Flight Control	Theory	3.00
AVO 4703	Aviation Legislation I	Theory	4.00
AVO 4705	Human Factors	Theory	3.00
AVO 4707	Aircraft Environment Control Systems	Theory	3.00
AVO 47XX*	Elective I	Theory	3.00
	Subtotal (Theory)		16.00
AVO 4702	Automatic Flight Control Sessional	Sessional	0.75
AVO 4708	Aircraft Environment Control Systems Sessional	Sessional	0.75
AVO 47XX*	Elective I Sessional	Sessional	0.75
AVO 4700	Final Year Research and Design Project (FYRDP)	Sessional	3.00
	Subtotal (Sessional)		5.25
	Total		**21.25**

Semester 8

Course Code	Course Name	Type of Course	Credit
AVO 4801	Aircraft Maintenance Management	Theory	2.00
AVO 4803	Aviation Legislation II	Theory	4.00
HUM 4303	Engineering Ethics and Professionalism	Theory	2.00
AVO 48XX*	Elective II	Theory	3.00
	Subtotal (Theory)		11.00
AVO 48XX*	Elective II Sessional	Sessional	1.5
AVO 4700	Final Year Research and Design Project (FYRDP)	Sessional	3.00
	Subtotal (Sessional)		4.50
	Total		**15.50**

Note:
* Students can choose from Elective/Optional courses offered by the Department of Aircraft Maintenance Engineering (Avionics).

List of Elective/Optional Courses Offered by AME (Avionics) Department

Course Code	Course Name	Credit Hours
AVO 4721	Machine Learning	3.00
AVO 4722	Machine Learning Sessional	0.75
AVO 4723	Artificial Intelligence	3.00
AVO 4724	Artificial Intelligence Sessional	0.75
AVO 4725	Industrial Electronics	3.00
AVO 4726	Industrial Electronics Sessional	0.75
AVO 4727	Sensors and Data Acquisition System	3.00
AVO 4728	Sensors and Data Acquisition System Sessional	0.75
AVO 4729	Microwave and Antenna Theory	3.00
AVO 4730	Microwave and Antenna Theory Sessional	0.75
AVO 4821	Control System Engineering	3.00
AVO 4822	Control System Engineering Sessional	1.50
AVO 4823	Robotics	3.00
AVO 4824	Robotics Sessional	1.50
AVO 4825	Unmanned Aerial Vehicles	3.00
AVO 4826	Unmanned Aerial Vehicles Sessional	1.50
AVO 4827	Quality Management and Aviation Standards	3.00
AVO 4828	Quality Management and Aviation Standards Sessional	1.50
AVO 4829	Statistics for Engineers and Reliability Analysis	3.00
AVO 4830	Statistics for Engineers and Reliability Analysis Sessional	1.50
AVO 4831	Introduction to CAMO	3.00
	Introduction to CAMO Sessional	1.50
AVO 4832	Digital Signal Processing	3.00
AVO 4833	Digital Signal Processing Sessional	1.50

Undergraduate Thesis/Final Year Research and Design Project (FYRDP)

Undergraduate Thesis/Final Year Research and Design Project (FYRDP)- AVO 4700 will have to be undertaken by students under a supervisor in partial fulfilment of the requirement of his degree. Credit allotted to the undergraduate FYRDP will be 6 having 12 contact hours.

General Aviation

The Department of General Aviation focuses on the operation, management, and maintenance of non-commercial and private aviation sectors. It encompasses training in aircraft handling, air traffic regulations, and aviation safety. With a commitment to developing skilled professionals, the department equips students with expertise to meet the growing demands of general aviation industries worldwide.

CAREER OPPORTUNITY

- Commercial Pilot
- Co-Pilot
- Flight Attendant
- Aircraft Mechanic

PROGRAMME BRIEF

B.Sc. in Aeronautics

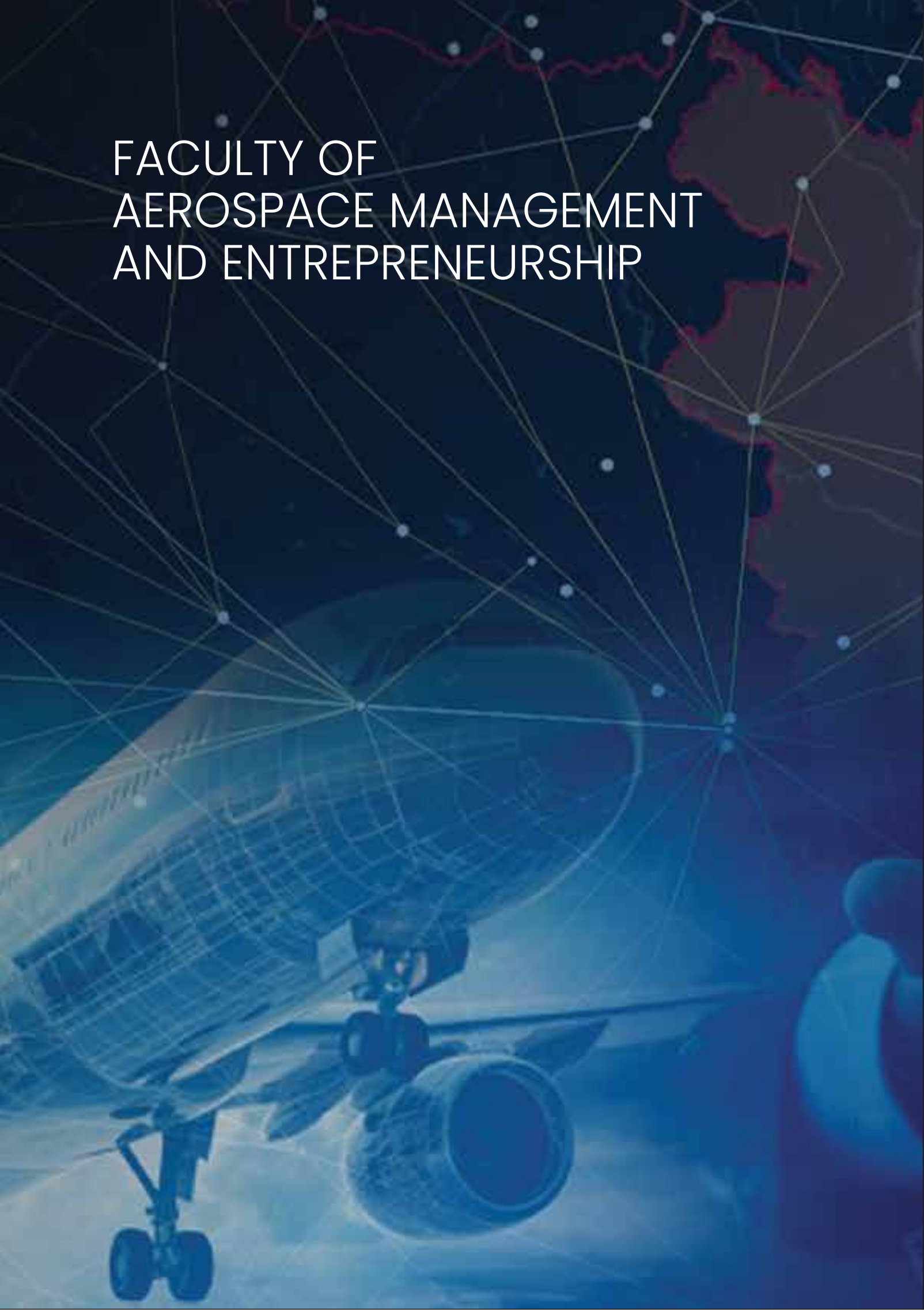
The B.Sc. in Aeronautics provides a comprehensive foundation in aviation science, preparing students for careers in flight operations, aviation management, and safety. Combining theoretical knowledge with practical training, the programme emphasises modern aeronautical technologies and industry standards, enabling graduates to excel in diverse roles within the global aerospace sector.

> *"Aeronautics was neither an industry nor a science. It was a miracle."*
>
> **- Igor Sikorsky**

THE B.SC. IN AERONAUTICS PROGRAMME IS SET TO LAUNCH SOON, OFFERING STUDENTS THE OPPORTUNITY TO GAIN GROUNDBREAKING KNOWLEDGE AND SKILLS FOR A PROMISING CAREER IN THE THRIVING AVIATION INDUSTRY.

STAY TUNED FOR UPDATES AND ENROLMENT DETAILS.

FACULTY OF AEROSPACE MANAGEMENT AND ENTREPRENEURSHIP



Aviation Operation Management

The Department of Aviation Operation Management offers the MBA in Aviation Management programme, tailored for students aspiring to advance their aviation education while building strong business and management skills. This programme provides comprehensive knowledge of various aspects of the aviation industry, both domestic and international. It also develops functional expertise across key management domains. Graduates will be well-equipped to face industry challenges and excel in research projects, exploring opportunities in aviation and the broader aerospace sector.

MBA in Aviation Management, a 60-Credit hours degree programme, will be completed in two academic years consisting of four semesters. A student must take 14 compulsory courses as assigned by the Department other than four elective courses. Besides, a student must conduct research works and submit thesis which will be followed by a compulsory formal defense and viva-voce. Fundamentals of Aviation Operations is a pre-course to start the programme in first 2 weeks within total 10 contact hours.

Department of Aviation Operation Management is working with the following missions keeping in mind:

1. To provide quality meaningful effective education and in-depth knowledge in Aviation Management.
2. To produce competent managers, capable of solving real-world problems to meet the needs of aviation industry and society.
3. To contribute towards the creation of new knowledge through eminence research and innovation in Aviation Management and allied fields to address emerging national and global issues for well-being of the aviation society and environment.
4. To enable students in attaining required ethics with an attitude of entrepreneurial skills, values and social consciences.
5. To embed leadership qualities amongst the students to follow successful professional career paths.
6. To pursue advanced studies in aviation management and a life-long learner in cutting edge developments in the field of aviation.

CAREER OPPORTUNITY

- Aviation Education Sector
- Airport Management
- Airport Operations
- Fueling Management
- Credit Control Management
- Freight and Cargo Management
- Airport Duty Management
- Airport Systems Management
- Ground Handling
- Aviation Tourism/Travel Management
- Airport Hospitality
- Aircraft Maintenance Management
- Airline Corporate Planning and Strategy
- Airline Revenue Management
- Flight Dispatch Services
- Aviation Entrepreneurship

PROGRAMME BRIEF

MBA in Aviation Management

The MBA in Aviation Management programme will be for a period of two academic years which consist of four semesters, carrying 60 credits. A student will be required to take all the core courses offered by the department and any four elective courses for acquiring the degree. There is a foundation course which is also compulsory for the students. The courses list is given below:

> *"Effective aviation management is the keystone of a safe and efficient air transport system."*
>
> - Dr. Robert Brown

Semester 1

Course Code	Course Name	Credit
AVM-5100	Fundamentals of Aviation Operations	-
HIS-5101	History of Emergence of Independent Bangladesh	3.00
MGT-5101	Management of Organization	3.00
AVM-5101	Aviation Economics	3.00
AVM-5102	Aviation Business Communication	3.00
AVM-5103	Human Factors in Aviation	3.00
	Total	**15.00**

Semester 2

Course Code	Course Name	Credit
FIN-5201	Financial Management	3.00
MGT 5202	Human Resource Management	3.00
MKT-5201	Supply Chain Management	3.00
AVM-6204	Research Methodology	3.00
AVM-6205	Aviation Safety Management	3.00
	Total	**15.00**

Semester 3

Course Code	Course Name	Credit
MKT-5302	Marketing Management in Aviation	3.00
AVM-6306	Aviation Security Management	3.00
AVM-6021	Elective-I : Aviation Legislation	3.00
AVM-6022	Elective-II : Air Transport Management	3.00
	Total	**12.00**

Semester 4

Course Code	Course Name	Credit
MGT-6403	Strategic Management	3.00
AVM-6407	Airport Operations and Management	3.00
AVM-6023	Elective-III: Aviation Industry Development	3.00
MIS-5021	Elective-IV : Management Information System	3.00
	Total	**12.00**

Thesis

Thesis will be conducted from semester 3 to semester 4 (Total 6 Credit).

FACULTY OF AVIATION STANDARDIZATION, REGULATIONS AND SAFETY

Aviation Standardization, Regulations and Safety

The M.Sc. in Aviation Safety and Accident Investigation allows student to receive an internationally recognised qualification in the field of the aircraft accident investigation. Most students join this course with the intention of receiving a qualification that will allow them to further their career development in accident investigation or other safety-related areas in the aviation sector. An important aspect of this course is the use of hands-on workshops and simulations to develop the practical skills required as an investigator. This is complemented by sessions and modules that enable the students to conduct rigorous research and scientific analysis, along with technical writing, investigation and interviewing techniques. AAUB offers a range of library and support facilities to support studies. This enables students to complete this qualification whilst balancing work/life commitments.

Department of Aviation Standardization, Regulations and Safety is working with the following missions in mind:

1. To provide high quality state of the art education and knowledge in Aviation Safety and Accident Investigation.
2. To produce competent safety officer and aircraft accident and other accident investigator capable of solving real-world problems to meet the challenges and needs of the aviation sector and the society as a whole.
3. To contribute towards the creation of new knowledge through eminent research and innovation in the areas of aviation safety and accident investigation and allied fields to address emerging national and global issues for the well-being of the aviation society.
4. To enable students in attaining required ethics with an attitude of technical and managerial skills, ethical values and social consciences.
5. To embed leadership qualities amongst the students to follow successful professional career paths.
6. To pursue advanced studies in Aviation Safety and Accident Investigation, and to become a life-long learner in cutting edge developments in the field of aviation.

CAREER OPPORTUNITY

- Academia
- Government and Non-government Accident Investigation Agency
- Airframe and Power Plant Manufacturer
- Airport Operations
- Air Traffic Services
- Air Safety Regulator
- Freight and Cargo Management
- Civil Aviation Authority
- Airport Systems Management
- Aircraft Maintenance Management

PROGRAMME BRIEF

Masters in Aviation Safety and Accident Investigation

> *Every accident investigation is a step towards a safer aviation future.*
>
> - Dr. Emily White

Masters in Aviation Safety and Accident Investigation programme consists of four semesters of course activities including research work and viva-voce. A list of courses is given below:

Course Code	Course Title	Credit Hours
ASI 6105	Applied Aircraft Accident Investigation	3
ASI 6119	Principles of Flight	3
ASI 6127	Failure Investigation of Aircraft Materials	3
ASI 6201	Aviation Safety Management	3
ASI 6203	Human Factor in Aviation	3
ASI 6215	Aircraft Airworthiness	3
ASI 6305	Research Methodology	3
ASI 6300	Thesis	6
	Total	27
	Elective Courses (Any 3)	
ASI 6051	Flight Data Monitoring and Analysis	3
ASI 6053	Safety Assessment of Aircraft Systems	3
ASI 6011	Applied Accident Investigation	3
ASI 6055	Introduction to Aircraft Structural Crashworthiness	3
ASI 6057	Legal Skills for Accident Investigators	3
ASI 6059	Bird Aircraft Strike Hazard	3
ASI 6061	Aviation Physiology	3
ASI 6013	Health, Safety and Environment	3
ASI 6015	Crisis Management	3
ASI 6065	Safety Risk Management	3
ASI 6069	Sustainable Aviation	3
ASI 6067	Forensic Engineering	3
	Total	9
ASI 6302	**Seminar**	**Non-credit**

AVIATION AND SPACE LAW

The frequent interaction of human beings with aviation and space technologies in the twenty and twenty-first century has facilitated the growth of International Air and Space Law (IASL) as a specialised field of legal study. The regulation of International Aviation has been a matter of specialised discussion and debates ever since the Wright Brothers flew in the sky and Vostok 1 conducted the first successful human spaceflight. Initially freedom in air and the sovereignty of the states over airspace was the starting point of these debates. Later on, more complex issues of international aviation contracts, public international legal regulations on aviation and space activities, air traffic management, liabilities in case of accidents, environmental regulation, aviation finance joined the club.

Very lately with the launch of Bangladesh Satellite-1, Bangladesh entered the space age. However, there was no scope for pursuing a comprehensive study on the entire legal regime on air, aviation and space in the South Asian region. Therefore, AAUB has taken the noble initiative to introduce a specialised LLM programme in International Air and Space Law. The LLM programme in IASL aims to develop an extraordinary circuit of legal professionals specialised on aviation and space matters.

The completion of LLM programme on IASL ensures an internationally recognised qualification on matters involving legal affairs of aviation and space matters. The AAUB offers a well-equipped and one of its kind specialised library and support facility for a LLM in IASL. The students shall gain both doctrinal and practical knowledge from leading experts of the relevant courses. Students shall be trained through lecture-based classes, group works, presentations, moot courts, assignments and authoring law review articles. The flexible schedule enables students to complete this qualification whilst balancing work/life commitments. At the same time, the rigorous legal training shall hone your skill to pursue a career in academia, legal practice and aviation sector.

CAREER OPPORTUNITY

- Academia
- Government and Non-government agency
- Space Organization like the SPARRSO, European Space Agency
- Law Firms or Consulting Firms with an aviation and space law practice
- Legal Adviser at national and international Airlines
- Legal Departments of Airports, Airlines and Aerospace Companies
- Civil Aviation Authority

PROGRAMME BRIEF

LLM in International Air and Space Law

> *Air and space are but one.*
>
> - Joseph Jenkins

The LLM in International Air and Space Law (IASL) programme will be for a period of two academic years which consist of four semesters, carrying 44 credits. A student will be required to take all the courses offered by the Department of Aviation and Space Law in all the semesters. Moreover, at the application of the student, the Department shall facilitate a non-credit internship with reputed organizations in the 2nd year of the programme. The courses list is given below:

Semester 1

Course Code	Course Name	Credit
ASL 6101	Introduction to Air and Space Law	3.00
ASL 6102	Principles of Public International Law	3.00
ASL 6103	Fundamentals of Public International Air Law	3.00
	Total	**9.00**

Semester 2

Course Code	Course Name	Credit
ASL 6204	Aviation Safety and Security Law	3.00
ASL 6205	Principles of Private International Air Law	3.00
ASL 6206	Aviation Laws of Bangladesh	3.00
ASL 6207	Airline Business and Law	3.00
	Total	**12.00**

Semester 3

Course Code	Course Name	Credit
ASL 6308	Legal Research and Writing	3.00
ASL 6309	Fundamentals of International Space Law	3.00
ASL 6310	Space Law: National and International Institutions	3.00
ASL 6311	Telecommunication Law	3.00
	Total	**12.00**

Semester 4

Course Code	Course Name	Credit
ASL 6412	Aviation Financing and Contracts	3.00
ASL 6413	Thesis	8.00
	Total	**11.00**

FACULTY OF SCIENCE AND HUMANITIES

SCIENCE AND HUMANITIES

The Department of Science and Humanities serves as a pivotal pillar, supporting all academic programmes across the university. It provides foundational and complementary education in key subjects such as Chemistry, Mathematics, Physics, English, and Humanities; which are essential to the core curricula of various specialised departments.

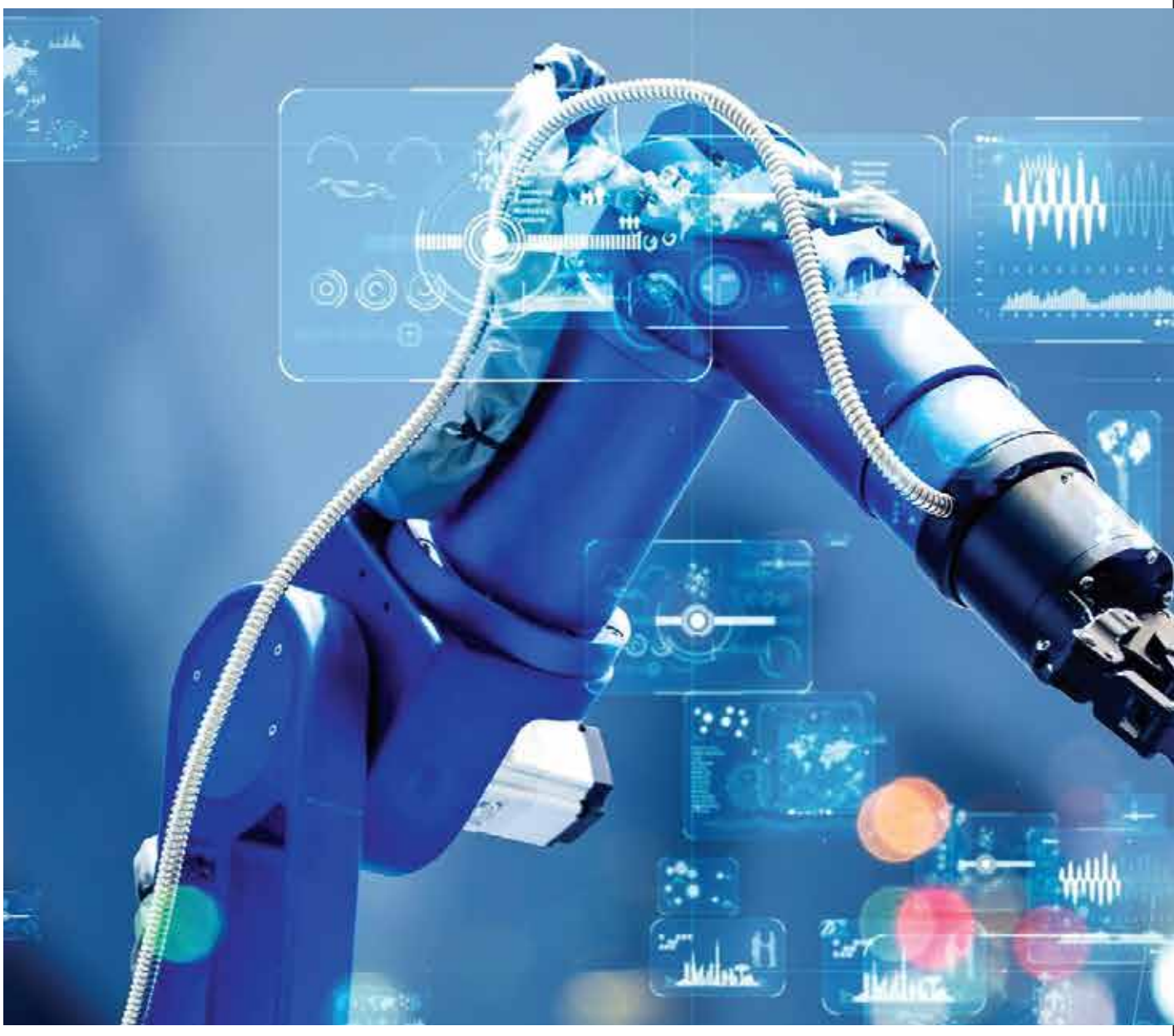
> *The fusion of science and humanities fuels the imagination and propels humanity forward.*
>
> **- Dr. Alice Johnson**

By offering these courses, the department ensures that students will develop a strong theoretical base, critical thinking skills and effective communication abilities to succeed in their respective fields. Its interdisciplinary approach fosters a comprehensive learning environment, equipping students with the diverse knowledge and skills required to excel in their academic and professional journeys.

FACULTY OF ENGINEERING AND TECHNOLOGY

ENGINEERING AND TECHNOLOGY

The Faculty of Engineering and Technology focuses on the knowledge and tools necessary to excel in civil, mechanical, electrical, and computer engineering, along with emerging fields like AI, robotics, and renewable energy. With state-of-the-art laboratories, experienced faculty, and industry partnerships, it ensures a robust practical and theoretical foundation.



> *Engineering is not only the study of the technical aspects of the world; it's about dreaming bigger, aiming higher, and creating what doesn't yet exist.*
>
> **- Elon Musk**

Graduates are prepared for construction, manufacturing, IT, energy, and research careers, with prospects in both the public and private sectors. The curriculum emphasises innovation, sustainability, and ethical engineering practices, fostering leaders capable of addressing global challenges and contributing to technological advancement and societal development.

THE FACULTY, DEPARTMENT, AND PROGRAMME ACTIVITIES ARE SET TO COMMENCE SHORTLY.

STAY TUNED FOR UPDATES AND ENROLMENT DETAILS.

Fees Structure*

of B.Sc. and Masters Programme

Financial Information for B.Sc. in Aerospace Engineering and B.Sc. in Avionics Engineering:

Description	Fee Amount
1st Semester (inc. Admission Fee)	36,750.00
2nd Semester	14,425.00
3rd Semester	14,250.00
4th Semester	13,450.00
5th Semester	13,950.00
6th Semester	16,975.00
7th Semester	18,650.00
8th Semester	12,400.00
Total	**1,40,850.00**

Financial Information for B.Sc. in Aircraft Maintenance Engineering (Aerospace) and B.Sc. in Aircraft Maintenance Engineering (Avionics):

Description	Fee Amount
1st Semester (inc. Admission Fee)	36,750.00
2nd Semester	14,425.00
3rd Semester	14,250.00
4th Semester	13,450.00
5th Semester	13,950.00
6th Semester	16,975.00
7th Semester	18,650.00
8th Semester	12,400.00
Total	**1,40,850.00**

Financial Information for Masters in Space System Engineering and Masters in Satellite Communication Engineering:

Description	Fee Amount
1st Semester (inc. Admission Fee)	49,775.00
2nd Semester	18,525.00
3rd Semester	25,325.00
4th Semester	25,275.00
Total	**1,18,900.00**

Financial Information for MBA in Aviation Management:

Description	Fee Amount
1st Semester (inc. Admission Fee)	49,800.00
2nd Semester	20,550.00
3rd Semester	21,200.00
4th Semester	21,150.00
Total	**1,12,700.00**

Financial Information for Masters in Aviation Safety and Accident Investigation:

Description	Fee Amount
1st Semester (inc. Admission Fee)	49,400.00
2nd Semester	18,150.00
3rd Semester	13,325.00
4th Semester	9,525.00
Total	**90,400.00**

Financial Information for LLM in International Air and Space Law:

Description	Fee Amount
1st Semester (inc. Admission Fee)	47,300.00
2nd Semester	12,050.00
3rd Semester	18,050.00
4th Semester	18,100.00
Total	**95,500.00**

*The university holds the authority to amend or update the syllabus as deemed necessary.

Old Airport, Tejgaon, Dhaka-1215.
Telephone: +8802 55065054
Cellphone: +880 1769995071
Email: pr&i@aaub.gov.bd
Website: https://aaub.gov.bd
https://aaub.edu.bd