emirates
aviation
university

School of Mathematics, Statistics & Computing 2017 – 2018

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About EAU
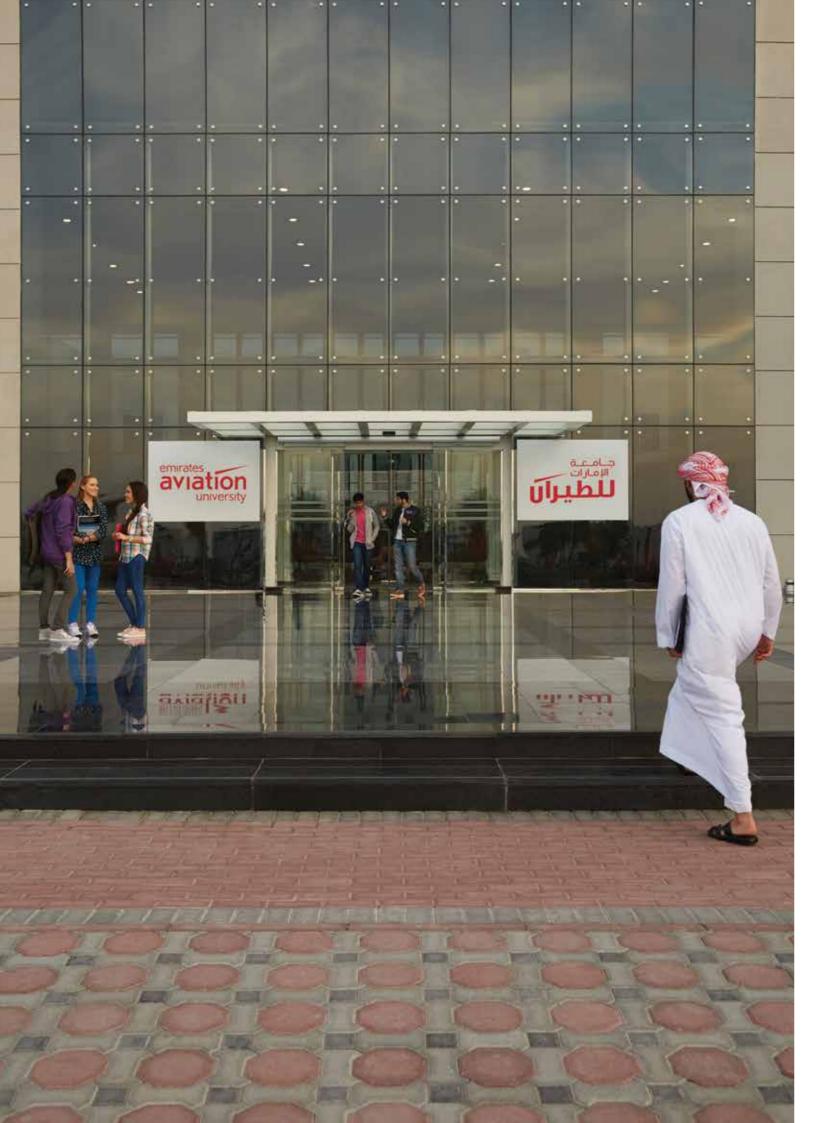
Emirates Aviation University (EAU) is the region's premiere aviation university and one of the leading academic institutions in the UAE. Established in 1991, EAU is part of the Emirates Group and was awarded university status in December 2010 by the UAE Ministry of Education – Higher Education Affairs. With an extensive range of nationally and internationally accredited aviation-related courses and programmes, EAU is the ideal launch pad for a successful career in engineering or business management. Licensed by the UAE Ministry of Education – Higher Education Affairs, the National Qualifications Authority (NQA) and the Knowledge and Human Development Authority (KHDA), EAU offers students postgraduate, undergraduate and vocational programmes that combine the highest standard of academics with the latest developments in the field of aviation. Home to a multicultural student community, the EAU campus in Dubai International Academic City (DIAC) is equipped to the highest international standards. Add to that an experienced faculty in a city that has become a vibrant cosmopolitan centre of business, culture and tourism, and students will have all they need to excel in a truly global environment.

Licensure and Recognition

Emirates Aviation University is licensed and recognised by the following bodies:
- Ministry of Education – Higher Education Affairs
- National Qualifications Authority (NQA)
- Knowledge and Human Development Authority (KHDA)
- General Civil Aviation Authority (GCAA)

Vision

To be one of the world's leading institutes of higher education in aviation-related disciplines.

Mission

- To serve the multifaceted educational needs of aviation students from the UAE as well as the greater Middle Eastern and subcontinent regions

- To offer outstanding applied educational programmes that allow students to develop their creative, analytical, communication and critical thinking skills in a collaborative, nurturing environment that promotes life-long learning and contributes to success in their professional careers

- To value and support academic, vocational and applied research amongst its faculty, both in their disciplines and in the appropriate pedagogy, necessary to be effective teachers and to serve the aviation industry

Undergraduate Programmes

Applied Bachelor in Software Engineering

Overview

The Applied Bachelor in Software Engineering programme is designed for students who wish to become software engineers. The programme introduces a wide range of software development skills required to compete in an ever-expanding software workforce.

The applied bachelor is a vocational qualification, ideal for Grade 12 or equivalent high school graduates aged 18 and above, seeking an education that prepares them for various positions in the Information Technology industry.

The following qualification is also available as an exit award of the Applied Bachelor in Software Engineering:

• Advanced Diploma in Software Engineering (2 Years)

Why enrol in this programme?

Our software engineering students are exposed to a variety of programming languages, such as Java, HTML5, JavaScript, Oracle, PL/SQL and XML. By the time they graduate, they will be fully prepared for immediate employment in the software engineering field.

The programme is designed in line with international quality standards. Graduates will be equipped with strong theoretical knowledge and practical skills that help them obtain entry-level jobs in their chosen fields, support continued education at the graduate level and provide a solid foundation for life-long career growth.

Accreditation

The Applied Bachelor in Software Engineering is a dual award programme conferred by Emirates Aviation University (EAU) and Coventry University, UK. The EAU award is recognised by the National Qualifications Authority (NQA) in the UAE.

The Advanced Diploma in Software Engineering and the Higher National Diploma in Computer Software Development are dual exit awards conferred by EAU and BTEC Pearson, UK respectively. The EAU diploma is subject to recognition by the National Qualifications Authority (NQA) in the UAE.

Career prospects

Software engineers design and develop several types of software, used in almost every facet of today's modern society, including computer gaming, business applications, military applications, telecommunication systems, operating systems and network control systems.

Computer software engineers apply the principles of computer science and mathematical analysis to the design, development, testing, and evaluation of the software and systems that make computers function.

Duration

Three years

Mode of delivery

This programme is offered on a full-time semester basis.

Course outline

A typical three-year study plan.

First Year

Ref	Module
01	Build, Configure and Maintain Computer Systems
02	Understand Mathematical Concepts Supporting Software Engineering Fields
03	Understand and Apply Programming Concepts
04	Design, Build and Test Combinational and Sequential Logic Circuits
05	Develop Application Solutions for Business Processes
06	English
07	Design Websites Using HTML and CSS
08	Design and Develop Solutions for Programming Problems
09	Understand and Create Relational Database Systems
10	Develop Object Oriented Programming Solutions

Second Year

Ref	Module
1	Apply Business Skills Needed to Design an e-Commerce Solution
2	Develop Advanced Database Systems
3	Understand and Apply Digital Forensics Investigations
4	Design and Implement Data Structures and Algorithms
5	Acquire Employability Skills and Manage Professional Development
6	Design and Build Distributed Software Applications
7	Design, Plan and Implement a Software Engineering Project
8	Develop Web Applications with Server-side Technologies
9	Understand and Apply Quality Control Processes in IT Systems Development
10	Plan, Monitor and Evaluate Work Experience (Internship I and II)

Third Year

Ref	Module
1	Statistics and Empirical Methods
2	Advanced Java
3	Software Requirement and Testing
4	Systems, Communications and Networks
5	Mobile Applications
6	Individual Project

The above programme of study is for illustrative purposes only and may be subject to change.

Entry Requirements

High School Certificate – a recognised and officially certified secondary school certificate or equivalent with a minimum total average of 80%. Applicants with averages between 70 and 79% will be subject to an interview

• British certificates (IGCSE, GCSE, GCE):

   • Five GCSE/IGCSE O-Level subjects and two GCE AS-Level subjects with a minimum grade of 'C' in all

OR

   • Five GCSE/IGCSE O-Level subjects and one GCE A-Level subject with a minimum grade of 'D' in either Mathematics or Physics

• English proficiency: Original certificate for any of the following:

   • TOEFL Paper Based (500)

   • TOEFL CBT (173)

   • TOEFL IBT (61)

   • IELTS (5)

   • PTE Academic (36)

Transfer admission/Accreditation of Prior Learning (APL) is possible and is subject to the applicable EAU regulations, in Years 1 and 2 only.

Applied Bachelor in Optimisation & Statistics

Overview

This programme provides a core set of skills in mathematical and statistical modelling, finance, operations research and optimisation. It offers students a wide range of specialisations to choose from, with a strong component of operation research aligned to the interests of the airline industry, police department and other companies, where the planning and scheduling of resources and staff is the basis of their functioning.

Why enrol in this programme?

Upon successful completion of this programme, graduates will be well-equipped to work within the following areas: planning, revenue optimisation, scheduling, risk management, business forecasting and simulation.

Accreditation

The Applied Bachelor in Optimisation & Statistics is a dual award programme conferred by Emirates Aviation University (EAU) and Coventry University, UK.

The EAU award is recognised by the National Qualifications Authority (NQA) in the UAE.

Career prospects

The skill sets acquired over the course of the programme are highly sought-after in many different career paths, such as business, finance, the civil service, and accountancy, along with other occupations included in the following main sectors: Business, Administration and Financial Services and Utilities and Infrastructure (according to ISCO-08: International Standard Classification of Occupation).

Graduates of similar programmes in the UK have secured employment with the following companies:

Civil Aviation Authority, British Airways, Rolls Royce, IBM, Microsoft, Royal Bank of Scotland, American Express, Bank of America, BBC, Accenture, Aviva, Barclays Capital, BUPA, Centrica, Coral, Debenhams, EDF, First Capital, Fujitsu, Goldman Sachs, HSBC, Lloyds TSB, Nationwide, PFIZER and Sony Music.

Duration

- Three years for students with GCE/A-Level (Grade 13)
- Four years for students with a High School Certificate (Grade 12)

Mode of delivery

This programme is offered on a full-time semester basis.

Programme outline

The programme provides an introduction to a wide range of mathematical techniques, centred on developing the capacities of students to solve practical problems.

- **Level 1:**

Statistics; Introductory Mathematics Methods; Further Mathematical Methods; Problem Solving Economics I; and Data Management and Operations Research I

- **Level 2:**

Linear Statistical Models; Advanced Calculus I&II; Operations Research II; Mathematical Modelling; Algebra and Graphs; Database Systems; and Principles of Economics II

- **Level 3:**

Statistical Modelling; Financial Mathematics; Operations Research III; Applied Math Method Project; and Coding & Cryptography

Entry requirements

- British certificates (GCSE and GCE):
  - Minimum of five GCSE subjects at grade 'C' and above including Mathematics and English

  - Minimum of two GCE (or equivalent) qualifications. Passes in AS Levels can be counted towards the Tariff Point total. However, these must not be double counted for a subject that has been continued into A2 Level. A pass in General Studies can be counted towards the Tariff Point total

- English proficiency: Original certificate for any of the following:
  - TOEFL Paper Based (500)
  - TOEFL CBT (173)
  - TOEFL IBT (61)
  - IELTS (5)
  - GSCE: English Language grade 'C'

For more information, please contact: