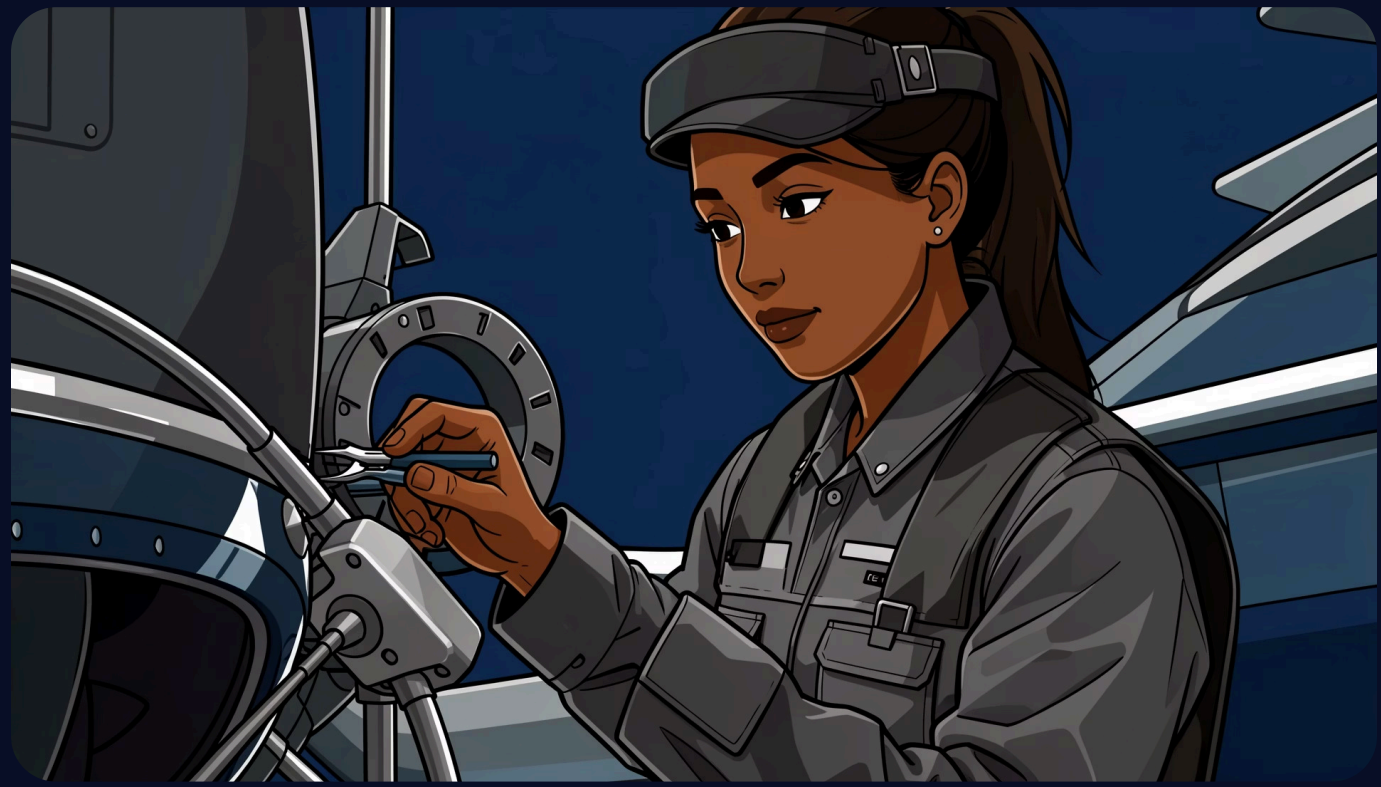
Becoming an Aeronautical Engineer in the Middle East

Aviation engineering is a regulated profession requiring approved training routes. In the Middle East, two main pathways lead to this field: the hands-on Apprenticeship/Airline training route and the theory-focused University degree route.

What is Aviation Engineering?

In airline and airport environments, "aviation engineering" primarily refers to **aircraft maintenance engineering**. These professionals inspect, repair, and certify aircraft for safe flight.

This differs from roles like aircraft design engineers, aeronautical or R&D engineers, which typically stem from university degrees and focus on design, analysis, and innovation rather than operational aircraft certification.



Regulatory Bodies

Each country in the Middle East has a national civil aviation authority that regulates training standards, licensing rules, and approved training organizations.

1

Saudi Arabia

General Authority of Civil Aviation (GACA)

2

United Arab Emirates

General Civil Aviation Authority (GCAA)

3

Jordan

Civil Aviation Regulatory Commission (CARC)

4

Qatar & Oman

Local Authorities; The Civil Aviation Authority (CAA) of Oman & Qatar Civil Aviation Authority (QCAA)

These authorities follow international ICAO standards, but rules are applied nationally.

Route A: Apprenticeship / Airline Training

This "hands-on" route is ideal for those who enjoy practical work and want to work on real aircraft early. It combines classroom learning, practical workshop training, and supervised on-the-job training (OJT).

Who it suits

People who want hands-on maintenance work early.

Typical Setting

Airline training college + workshops + OJT.

Key Roles

licensed aircraft engineer, mechanic, or avionics technician

Apprenticeship Pathway: Simple Steps

Apply **Selection** **Training** **OJT** **Licensing**

This structured pathway ensures comprehensive development before an individual can apply for a maintenance license issued by the national aviation authority.

Apprenticeship Examples in the Middle East

Saudi Arabia

GACAR Part 66 & 147 regulate training. Saudia Technic runs multi-year technician trainee programs.

United Arab Emirates

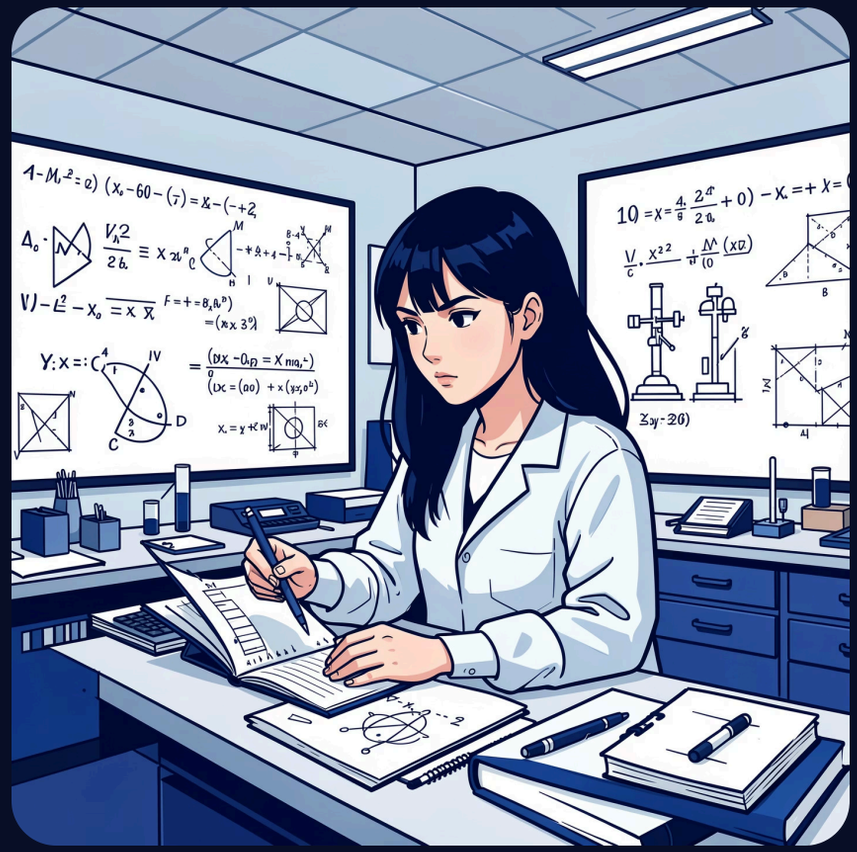
CAR-66 based licensing. Etihad Engineering offers a National Apprenticeship Programme.

Qatar

QCAR Part-66 based system. Qatar Airways has an Aircraft Maintenance Engineering Programme.

Age limits, nationality, and entry requirements vary by employer.

Route B: University Degree



This "university" route is for students who enjoy maths, physics, and theory, aiming for broader engineering knowledge and roles in design, analysis, or technical management.

Who it suits

People who want broader engineering foundations.

Typical Setting

University labs/courses.

Degree Pathway: How it Works

This pathway involves studying an Aerospace, Aeronautical, or Mechanical Engineering degree. Although it provides a strong technical foundation, a university degree alone does not allow graduates to certify aircraft. Most graduates work in design, analysis, or technical management roles, while those seeking maintenance certification must complete further approved training.

01

Study Degree

Aeronautical, Aerospace or Mechanical Engineering.

02

Graduate Engineer

No automatic maintenance license.

03

Career Paths

Design, analysis, engineering, or further training for certification.

🌍 Study Aircraft Maintenance Engineering in the Middle East:

Bachelor-level aircraft maintenance programmes in the Middle East offer structured pathways that blend academic knowledge with practical aviation engineering skills.

Bachelor's Program in Aircraft Maintenance (B1.1)

Amman Arab University, Jordan

First degree of its kind focused on aircraft maintenance Bachelor degree!

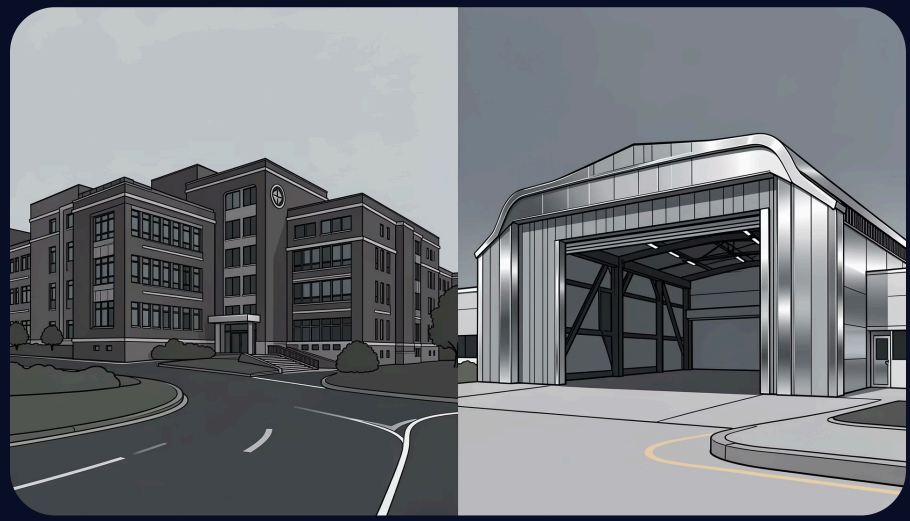
Applied Bachelor in Aircraft Maintenance Engineering

United Arab Emirates

Combines academic bachelor-level education with hands-on maintenance training.

Degree vs. Apprenticeship: Different Paths

Apprenticeship	Aircraft maintenance	Maintenance engineer
Degree	Engineering theory	Graduate engineer



Neither route is "better"; they lead to different careers. Training duration varies, typically 2-4 years for apprenticeships and 3-4.5 years for degrees.

Key Takeaways

Approved Routes

Must follow official training routes for aviation engineering.

Different Roles

Each route leads to distinct career opportunities in aviation.

Hands-on vs. Theory

Choose between practical apprenticeship or academic degree paths.

Verify Information

Always check with national civil aviation authorities and official career pages.