Ecole Nationale
de l'Aviation Civile

PART-TIME INGÉNIEUR ENAC (MSC PROGRAMME)

IN BRIEF

Type of diploma : Ingénieur MSc degree
Ministry field(s) : Science and Technology

Presentation

What is an ENAC engineer?

Guaranteed versatility for the aeronautics sector

ENAC engineers get involved in designing, producing and operating systems or services in the air transport and aeronautics industry.

They have a general grounding in air transport, aeronautics and aerospace and cutting-edge expertise in some of these areas: air operations and safety, avionic systems, air traffic management systems and aeronautic and aerospace telecommunications.
In step with their times, they are highly valued by companies who acknowledge their unequalled versatility. They are able to work across a wide variety of professions and therefore to enjoy a guaranteed progressive career.

They work first and foremost in the aeronautics and aerospace industry (designers and builders of aerospace systems), in air transport (airlines, airports), in civil aviation governance (DGAC) and a whole host of associated sectors.

MORE INFO

Level : Year 5 higher education – Master

Training Audience
* Part-time

Organization

Year 1

Semester 5

- *Human sciences and professionnalisation (Mandatory)*
  · LV3501 - French Advanced Test
  · EC3501 - General and International Economics
  · DJ3501 - French labour law
  · LV3501E - English language
  · RE3560 - Initiation to research
  · DD101 - Climate week
- *Aeronautical Technical Basics (Mandatory)*
  · RG3501 - Air Transport System Presentation

· MT3501 - General Meteorology
· CA3501 - Air Traffic Regulation
· AE3501 - Aircraft and flight principles
· AE3506 - Knowledge and technical drawing of an aircraft
· NA3501 - Navigation
· NA3502 - Conventional Radionavigation

- *Mathematics, Informatics (Mandatory)*
· MA3501 - Analysis
· MA3503 - Linear algebra
· IS3501 - Information systems security basics
· IP3540 - Python Programming project
· IO3541 - Architecture and operating systems
· IP3542 - Programming and Algorithmics

- *In company evaluations (Mandatory)*
· TX3501 - Engineering skills
· TX3502 - Technical skills
· TX3503 - Final work presentation

Semester 6

- *UE SH and professionnalisation (Mandatory)*
· LV3502E - English language
· EC3503 - Air transport economics
· CS3501 - Project management

- *UE Aeronautical Technical Basics (Mandatory)*
· AU3501 - Basic principles of automatics / Single input/single ouput systems analysis
· AU3544 - Introduction to dynamical systems
· AV3544 - Environnement cockpit d'un avion de transport moderne
· SV3501 - Surveillance and ATM system
· AE3502 - Flight mechanics
· CA3503 - Instrument approach
· AT3501 - ATM system and its use
· NA3563 - Navigation satellite systems

- *UE Mathematics and Informatics (Mandatory)*
· MA3502 - Numerical analysis
· MA3506 - Probabilities
· MA3508 - Statistics
· RS3501 - Networks and communications
· IP3500 - Database management system
· IH3501 - Ergonomics and human factors of interactive systems
· IW3561 - Web application
· IW3560 - SGBD Project + Techo Web

- *UE In company evaluation (Mandatory)*
· TX3511 - Engineering skills
· TX3512 - Technical skills

· TX3513 - Final work presentation

Year 2

Semester 7

- *UE Human Sciences and Engineering Techniques (Mandatory)*
  · LV4503E - English language
  · CS4502 - Requirements engineering
- *UE Sciences applied to Air Transport (Mandatory)*
  · AE4546 - Theoretical Aerodynamics
  · AE4547 - Propulsion
  · AE4542 - Helicopters
  · AE4549 - Aircraft circuits
- *UE Sciences applied to Air Transport (Operations) (Mandatory)*
  · OP4543 - Limits of use and conduct of the flight
  · AV4548 - TP flight simulators
  · EA4541 - Airports
  · RG4542 - Aircraft Certification
  · AV4510 - Introduction to Flight Controls
- *UE Mathematics and Computer Science (Mandatory)*
  · MA4547 - Combinatorial optimisation
  · IP4560 - C language
  · IS4560 - C Language Project
- *UE Company assessments (Mandatory)*
  · TX4521 - Engineering skills
  · TX4522 - Technical skills
  · TX4523 - Final work presentation

Semester 8

- *UE Human and Economic Sciences (Mandatory)*
  · LV4504E - English language
  · EC5510 - Economics and enterprise role play
- *UE Sciences applied to Air Transport (OPS and ARPT) (Mandatory)*
  · AE4540 - Helicopter Engines and Engine Certification
  · AE4543 - Flight qualities
  · AE4550 - Strength of materials
  · RG4545 - Performances certification
  · MT4541 - Aeronautical meteorology
  · EA4542 - Airport environment
  · EA4543 - Air operations/airport study
- *UE Sciences applied to Air Transport (AVI and ATM) (Mandatory)*
  · AU3007 - Self-contained navigation systems
  · AV4509 - Automatic Flight Controls
  · AU4500 - DO Automatic Flight Controls
  · AV4500 - Avionics project

· CA4563 - Air traffic simulations
· CA4541 - ATC Procedures

- *UE Mathematics, Computer Science and Engineering Sciences (Mandatory)*
· CS4560 - Validation and verification
· MA4549 - Non linear optimisation
· IH4563 - Human-Computer Interaction design
· IP4550 - Software engineering
· IP4570 - Programming of interactive systems
· IO5501 - Real time informatics for simulation

- *UE Company assessments (Mandatory)*
· TX4531 - Engineering skills
· TX4532 - Technical skills
· TX4533 - Final work presentation

Year 3

Semester 9

- *OP Option - Quality and Safety (Mandatory)*
· CS5543 - Process and indicators approach
· CS5546 - Change management and Lean Six Sigma
· CS5544 - Dependability - Safety analysis (on board)
· CS5545 - SMS - operator and aerodrome
· RG5548 - Airworthiness

- *OP Option - Flight Operations Optimization (Mandatory)*
· MA5542 - Optimisation under uncertainty
· MA5544 - Operational research for air transport
· MA5545 - Project - Operationnal research for air transport

- *IS Option - Engineering and Security (Mandatory)*
· IP5560 - Introduction to object oriented programming C++
· IP5565 - OOP oriented toward C++ certification
· RS5561 - Functional Design
· CS5565 - Adaptive systems
· SF5562 - Dependability - Safety analysis (ATM)
· CS5547 - SMS - ATM and manufacturer

- *IS Option - AI & Data Science (Mandatory)*
· IA4561 - Artificial intelligence
· IA5563 - Data science
· IA5568 - Big data conferences

- *SHES and Professionalization (Mandatory)*
· LV5501E - English language
· EC4520 - Intellectual Property
· EC5542 - Airlines economics
· SH5500 - Jobhunting methods
· SH5502 - Communicating effectively and managing conflicts

- *Applied Sciences for Air Transport (Mandatory)*
· AE5540 - Electricity in an aircraft

· AV5542 - On-board CNS systems
· AE5550 - Charges calculation - Cell
· OP5540 - Airline information system
· IS5540 - Security of Information System
- *Research oriented project (Mandatory)*
· SH5503 - Information research methodology
· PT5561 - Research Oriented Project (Language C++)
- *In company evaluation (Mandatory)*
· TX5004 - Technical skills
· TX5005 - Engineering skills
· TX5006 - Presentation of the realized work
- *Semester 10 (Mandatory)*
· TX5900 - End of study project

- *English level (Mandatory)*
· TOEIC - TOEIC

Access conditions

For more information please click here.

Organizational unit

ENAC - Ecole nationale de l'aviation civile

Places

Montpellier, Toulouse

Contacts

Responsable

Mme GIZARDIN Muriel
muriel.gizardin@enac.fr
Phone +33 5 62 17 44 12