

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.

Organization

Year 1

Semester 5

MORE INFO

Level : Year 5 higher education – Master

Type of education

* Part-time

- *Human sciences and professionalisation (Mandatory)*
 - LV3501 - French Advanced Test
 - EC3501 - General and International Economics
 - DJ3501 - French labour law
 - LV3501E - English language
 - RE3560 - Initiation to research
 - DD101 -
- *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
 - IP3550 - Introduction Unix / Linux and Shells
 - 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 professionalisation (Mandatory)*
 - LV3502E - English language
 - EC3503 - Air transport economics
 - CS3501 - Project management
- *UE Aeronautical Technical Basics (Mandatory)*
 - AU3501 - Basic principles of automatics / Single input/single output systems analysis
 - AU3544 - Introduction to dynamical systems
 - AV3544 - Environnement cockpit d'un avion de transport moderne
 - SV3501 - Radar and surveillance
 - 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
 - AU3007 - Self-contained navigation systems
 - OP4543 - Limits of use and conduct of the flight
 - AV4548 - TP flight simulators
 - EA4541 - Airports
 - RG4542 - Aircraft Certification
- *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 (Mandatory)*
 - AE4540 - Helicopter Engines and Engine Certification
 - AE4543 - Flight qualities
 - AE4550 - Strength of materials
 - RG4545 - Performances certification
 - AV4509 - Automatic Flight Controls
 - AU4500 - DO Automatic Flight Controls
 - AV4500 - Avionics project
 - CA4563 - Air traffic simulations
 - CA4541 - ATC Procedures
 - MT4541 - Aeronautical meteorology
 - EA4542 - Airport environment
 - EA4543 - Air operations/airport study
- *UE Mathematics, Computer Science and Engineering Sciences (Mandatory)*
 - CS4560 - Validation and verification
 - MA4549 - Non linear optimisation
 - IH4563 - Human-Computer Interaction design / Object-oriented design
 - IP4550 - Object-oriented programming Python
 - IO5501 - Real time informatics for simulation
- *UE Company assessments (Mandatory)*
 - TX4531 - Engineering skills
 - TX4532 - Technical skills
 - TX4533 - Final work presentation

Year 3

Semester 9

IENAC REF Semester 9 Cursus OPS

- *Professionalisation and Engineering Sciences (Mandatory)*
 - EC5510 - Economics and enterprise role play
 - LV5501E - English language
 - SH5502 - Communicating effectively and managing conflicts
- SH5500 - Jobhunting methods
- DD5500 - Sustainable development
- *Technics Aircraft (Mandatory)*
 - AE5540 - Electricity in an aircraft
 - AV5542 - On-board CNS systems
- *Quality and Aeronautical safety (Mandatory)*
 - CS5545 - SMS - operator and aerodrome
 - CS5543 - Process and indicators approach
 - CS5546 - Change management and Lean Six Sigma
 - CS5544 - Dependability - Safety analysis (on board)
 - RG5548 - Airworthiness
- *Airlines (Mandatory)*
 - OP5540 - Airline information system
 - OP5543 - Optimization applied to airlines
 - IS5540 - Security of Information System
 - EC5542 - Airlines economics
- *Airlines Optimisation (Mandatory)*
 - MA5544 - Operational research for air transport
 - MA5542 - Optimisation under uncertainty
 - MA5545 - Project - Operational research for air transport

IENAC REF Semester 9 Cursus SITA

- *Professionalisation and Engineering Sciences (Mandatory)*
 - EC5510 - Economics and enterprise role play
 - LV5501E - English language
 - SH5500 - Jobhunting methods
 - SH5502 - Communicating effectively and managing conflicts
 - DD5500 - Sustainable development
- *Data Science (Mandatory)*
 - IA5563 - Context, general principles and methodologies of learning
 - IA5564 - Main Supervised and Unsupervised Learning Algorithms
 - IA5565 - Big data architectures and data visualisation
 - IA5568 - Big data conferences
- *Programming and security (Mandatory)*
 - IP5560 - Introduction to object oriented programming C++
 - IP5565 - OOP oriented toward C++ certification
- *Professionalisation and Engineering Sciences (Mandatory)*
 - CS5006E - Verification and Validation - Advanced
 - RS5561 - Functional Design
 - CS5565 - Adaptive systems
 - SF5562 - Dependability - Safety analysis (ATM)
 - CS5547 - SMS - ATM and manufacturer
- *Project (Mandatory)*
 - PT5561 - Research Oriented Project (Language C++)
 - SH5503 - Information research methodology
- *In company evaluation (Mandatory)*
 - TX5005 - Engineering skills
 - TX5004 - Technical skills
 - TX5006 - Presentation of the realized work
- *Semester 10 (Mandatory)*
 - TX5900 - End of study project

Access conditions

For more information please click [here](#).

Organizational unit

ENAC - Ecole nationale de l'aviation civile

Places

Montpellier, Toulouse

Contacts



Responsable

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