Ecole Nationale
de l'Aviation Civile

MASTER AEROSPACE SYSTEMS - NAVIGATION AND TELECOMMUNICATIONS

RÉSUMÉ DE LA FORMATION

Type de diplôme : Master (LMD)
Domaine ministériel : Sciences, Technologies, Santé
Mention : Aéronautique et espace

Présentation

Presentation :

The Master of Science in GNSS, Global Navigation Satellite System, defines a satellite-based system that allows autonomous positioning and navigation of a suitably equipped user everywhere and at all times.

The Master of Science (MSc) in GNSS is a 2-year programme offering advanced education in Satellite-based Positioning and Space Telecommunications.

It aims at training students for the steadily growing GNSS industry.

Objectifs

Objectives :

Global Navigation Satellite Systems (GNSSs) have gained a lot of worldwide attention due to a significant increase in applications using GPS for positioning and navigation (aeronautics, vehicular and pedestrian navigation, location-based services, etc).

This international enthusiasm is confirmed by the worldwide development of other global and regional satellite-based navigation systems in Europe, the USA, China, Russia, India and Japan, creating a strong need for experts in this field.

The objective of this MSc in GNSS is to provide students with advanced skills and knowledge in the field of GNSS and its related applications, in order to prepare them to enter the highly dynamic GNSS and GNSS-dependent industry. In addition, the students will have a grounding in telecommunications, as both fields are strongly complementary.

Informations supplémentaires

PLUS D'INFOS

Niveau d'étude : BAC +5

Public concerné
* Formation initiale

Nature de la formation : Parcours

EN SAVOIR PLUS

ENAC Website

Additional information

Please, click here to access to the "Fiche RNCP" (Répertoire national des certifications professionnelles).

Organisation de la formation

Année 1

Semestre 7

- *Fundamentals of Mathematics (Obligatoire)*
  - · MA414E - Theory of distributions for signal processing
  - · MA405E - Probability/Statistics
  - · MA406E - Stochastic Processes
- *Fundamentals of Signal Processing and Electromagnetics (Obligatoire)*
  - · MO404E - Electromagnetics
  - · SP411E - Signal theory and signal processing
  - · SP410E - Digital signal processing
  - · SP408E - Analog filtering
  - · AU408E - Linear servo loop system
- *GNSS 1 (Obligatoire)*
  - · NA402E - Introduction to GNSS and its evolutions
- *Introduction to Programming (Obligatoire)*
  - · IP405E - Programming and C language
- *Applied Project 1 (Obligatoire)*
  - · NA490E - PVT computation project
- *Language and Human Science 1 (Obligatoire)*
  - · LV401 - Culture and Language - French
  - · LV406E - Culture and Language - English

Semestre 8

- *Propagation Channel (Obligatoire)*
  - · MO405E - Antenna and propagation for GNSS
  - · MO406E - Propagation Channels Modeling
- *Advanced Signal Processing 1 (Obligatoire)*
  - · SP412E - Estimation/Detection
  - · SP413E - Kalman Filtering
  - · AU409E - State Space Modeling, Analysis and Control
  - · SP415E - Digital communications
- *GNSS 2 (Obligatoire)*
  - · NA404E - GNSS for Civil Aviation
  - · NA403E - Differential GNSS Methods
  - · NA406E - Inertial Sensors and Hybridization Techniques
  - · NA4007E - Astrodynamics

- *Applied Project 2 (Obligatoire)*
  · NA491E - Applied project
  · CP4005E - Course project - Market your Ideas
  · CS406E - Introduction to System Engineering and Quality
  · CS407E - Project Management
- *Language and Human Science 2 (Obligatoire)*
  · LV402 - Culture and Language - French
  · LV407E - Culture and Language - English

Année 2

Semestre 9

- *Advanced signal processing 2 (Obligatoire)*
  · SP501E - Digital Receivers
  · SP503E - Array signal processing
  · SP502E - Parametric modeling
  · SP520E - Spread Spectrum Techniques
- *Telecommunications 2 (Obligatoire)*
  · AV5002 - On-board systems
  · SP514E - Modern Channel Coding
  · SP513E - Classical Channel Coding
  · SP5007 - Spatial Technology
- *GNSS 3 (Obligatoire)*
  · NA5020E - Future GNSS Signals
  · NA5021E - High Sensitive Receivers - Urban positioning
  · NA5022E - Alternative Positioning
  · NA5023E - Business in GNSS
  · NA5920E - Projet GPS L1 C/A Receiver
- *Applied project 3 (Obligatoire)*
  · NA490E - Applied project
- *Language and Human Science 3 (Obligatoire)*
  · LV501 - Culture and Language - French
  · LV504E - Culture and Language - English
  · SH5002E - Communicating effectively and managing conflicts
- *Semestre 10 (Obligatoire)*
  · TX599E - Projet de fin d'études

Conditions d'accès

Pour plus d'informations, merci de cliquer ici.

Insertion professionnelle

Recent studies have shown that there will be a lack of graduate students to fill the open positions in the GNSS industry in the near future. This MSc in GNSS provides students with a head start in the evolving and growing market of satellite-based navigation and telecommunications.

Hence, graduate students can join:

• large companies,

• SMEs,

• national institutions,

• research laboratories.

Composante

ENAC - Ecole nationale de l'aviation civile

Lieu(x) de la formation

Toulouse

Responsable(s)

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