

ANGERS  
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**eSEO**  
GRANDE ÉCOLE D'INGÉNIEURS



INNOVATION MAKES SENSE

# ESEO International Summer Programmes

# ESEO International Summer Programmes: July 2019 (8 July – 19 July 2019) Angers - FRANCE

ESEO's summer programmes provide international students with opportunities to receive high quality courses on topics among the fields of expertise of the school. All courses are taught in English. They aim at developing a full understanding of the domain by illustrating the theoretical aspects through the development of practical functional projects that will remain as a souvenir for the participants.

In addition, ESEO's International Summer Programmes are an occasion to make new friends from all parts of the world and discover France, French culture and life in Angers, a city at the heart of the Loire Valley.

## Summer Programme #1: IoT: From Sensors to Decision and Action

**Scope:** This programme presents the Internet of Things (IoT) by focusing on the full chain starting with the sensor and the data it collects and ending with the relevant action to be taken. It covers aspects such as: the electronics of sensors and their supply in energy, the network protocols used for communication or the security concerns. The programme will be supported by a practical project and the participants will develop a fully functional communicating smart device.

**Required skills and degree:** The programme is designed for second or third year Bachelor's students in computer or electrical engineering. Other international university students with knowledge in electronics, networks and programming can apply.

**Teaching language:** All courses are taught in English. A course on the discovery of French language and culture will be scheduled each morning. Participants are not required to have any knowledge of the French language.

**ECTS:** Participants are required to attend all courses to receive 3 ECTS.

**Maximum number of participants:** The programme will accept a maximum of 25 participants.

**Tuition fees:** the tuition fee for the "IoT : From Sensors to Decision and Action" summer programme depends on the date of registration. It includes tuition, social and cultural events and a local public transport pass valid for the duration of the programme.

Accommodation, transport to and from Angers are **not included**.

For an extra cost, accommodation in students' hostels can be arranged for.

	Early bird until 31/05/19	Late from 01/06/19
<b>Tuition fee</b>	900 €	1100€
<b>Accommodation (optional)</b>	400€	500€

### ► PRELIMINARY SCHEDULE

The following tentative schedule is subject to change. Each day will start with a short one hour course on French language and culture.

#### Monday 8 July 2019

Welcome and presentation of the programme  
*Social and Cultural Event* : Visit of the city

#### Tuesday 9 July 2019

*Lab*: Laser Cutting and 3D printing  
*Lecture*: Protocols for the IoT

#### Wednesday 10 July 2019

*Lecture*: Energy for the IoT  
*Visit*: Angers Fab Lab – Cité de l'Objet Connecté

#### Thursday 11 July 2019

*Lab*: Implementing a smart device

#### Friday 12 July 2019

*Lecture*: Security for the IoT  
*Social and Cultural Event*: Canoeing the rivers of Anjou

**Saturday 13 July 2019** Free time

**Sunday 14 July 2019** Free time

#### Monday 15 July 2019

*Lecture*: Time domain analysis  
*Lab*: Implementation of a smart device

#### Tuesday 16 July 2019

*Lab*: Implementation of a smart device

#### Wednesday 17 July 2019

*Lab*: Implementation of a smart device

#### Thursday 18 July 2019

*Lab*: Implementation of a smart device

#### Friday 19 July 2019

Assessments  
*Social and Cultural Event*: Cultural visit and farewell dinner

# Summer Programme #2: Electronics for Audio

**Scope:** This programme aims at presenting audio power amplification and signal processing for audio. It is supported by illustrative practical projects and its participants will develop a fully functional BlueTooth speaker.

**Required skills and degree:** The programme is designed for second or third year Bachelor's students in electrical engineering. Other international university students with basic knowledge in electronics (transistors, RLC circuits) can apply.

**Teaching language:** All courses are taught in English. A course on the discovery of French language and culture will be scheduled each morning. Participants are not required to have any knowledge of the French language.

**ECTS:** Participants are required to attend all courses to receive 3 ECTS.

**Maximum number of participants:** The programme will accept a maximum of 25 participants.

**Tuition fees:** the tuition fee for the "Electronics for Audio" summer programme depends on the time of registration. It includes tuition, social and cultural events and a local public transport pass valid for the duration of the programme.

Accommodation, transport to and from Angers are **not included**.

For an extra cost, accommodation in students' hostels can be arranged for.

	Early bird until 31/05/19	Late from 01/06/19
<b>Tuition fee</b>	900 €	1100€
<b>Accommodation (optional)</b>	400€	500€

## ► PRELIMINARY SCHEDULE

This tentative schedule is subject to change. Each day will start with a short one hour course on French language and culture.

### Monday 8 July 2019

Welcome and presentation of the programme  
*Social and Cultural Event* :Visit of the city

### Tuesday 9 July 2019

*Lecture*: Class A linear amplifier  
*Lab*: Designing a class A linear amplifier

### Wednesday 10 July 2019

*Lab*: Laser Cutting and 3D printing  
*Visit*: Angers Fab Lab – Cité de l'Objet Connecté

### Thursday 11 July 2019

*Lecture*: Class D amplifiers

### Friday 12 July 2019

*Lab*: Simulation of a Class D amplifier  
*Social and Cultural Event*: Canoeing the rivers of Anjou

**Saturday 13 July 2019** Free time

**Sunday 14 July 2019** Free time

### Monday 15 July 2019

*Lab*: Simulation of a Class D amplifier  
*Lab*: Design of a Class D amplifier

### Tuesday 16 July 2019

*Lab*: Design of a Class D amplifier

### Wednesday 17 July 2019

*Lecture*: Digital signal processing for audio  
*Lab*: Digital Signal Processing for audio

### Thursday 18 July 2019

*Lab*: Real Time Signal Processing for audio  
*Lab*: Finalisation of the project

### Friday 19 July 2019

Assessments  
*Social and Cultural Event*: Cultural visit and farewell dinner



## Contact, enquiries and enrollment

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# Presentation of ESEO

ESEO is a comprehensive **institute of electronics and computer engineering** founded in 1956 in Angers, France. Since 1962, it has continuously been accredited by the "Commission des Titres d'Ingénieurs" - CTI (French national commission on engineering degrees) and as such was awarded the **EUR-ACE** (EUROpean Accredited Engineer) label. ESEO is a member of the "Conférence des Grandes Écoles - CGE"; a French national institution that counts all the engineering institutions accredited by the CTI as its members.

ESEO is an **international higher education** group. It has campuses in France (Angers, Paris and Dijon), abroad (Shanghai and Bamako) and a large network of international academic partners.

Each year, some **200 ESEO students graduate** with the French "**Diplôme d'Ingénieur**" after having gained scientific, technical, technological, economic, organisational and strategic skills in the field of electronics and computer engineering. The school is **recognised by companies** as one of the best in its fields and our students have a wide range of **professional opportunities** once they graduate.



# Presentation of Angers

ESEO is located in Angers in the Pays de la Loire Region in Western France. UNESCO has recognised the region as a World Heritage Site for both its natural and historical heritage.

With a population of approximately 300 000 inhabitants and over 40 000 students, 15% of whom are international students, Angers is the 17<sup>th</sup> most populous city in France and has, several times, been elected the city with the highest quality of life in France.

The city of Angers is also a center for innovation and advanced technology and was awarded the "French Tech" label to support initiatives in the fields of smart devices, IoT and the Smart City. This gives the school a very dynamic and technological surrounding to build partnerships locally.

Paris is only 300 kilometres from Angers and can be reached after a 1.5 hours journey by the high-speed train. Nantes, the largest city in the region, is 90 kilometres from Angers. This makes Angers within a 2 hour distance of two international Airports.

