

# Exchange programmes in Engineering

## Spring semester 2024

Fontys University of Applied Sciences, Eindhoven, The Netherlands



Fontys is a large and broad-based public university of applied sciences with 46,000 students, 5.000 employees and locations in ten cities in the south of the Netherlands (Noord-Brabant and Limburg). Fontys Engineering is one of the 25 individual Fontys institutes that collectively offer more than 100 courses – bachelor's, master's, associate degrees, as well as training programmes and courses for the business market – and carry out practice-based research, each in collaboration with and for its own professional field.

### Principles of education

Fontys Engineering prepares its student for their professional career. Although we have our own unique professional context, our own curriculum, and our own way of providing education, we follow the following five 'principles of learning':

- We challenge students to discover and optimally develop their talents.
- Learning takes place as much as possible in an authentic learning environment (i.e., a situation that 'resembles' the student's future work environment).
- Learning means acquiring knowledge and skills as well as exploring and experiencing together. We take 'together' literally: we work together with fellow students, teachers, researchers, and professionals working in the field.
- The student takes ownership of their learning process. In other words: as a student, we give you as much control as possible over what, how and when you learn. This not only means that our students are given a great deal of autonomy and freedom; we also expect them to show a strong sense of responsibility.
- 'Studyability' is central. By this we mean that we offer a fair balance between challenge and feasibility.

### Eindhoven Campus

All courses offered by Fontys Engineering are given in the Eindhoven region. This region is internationally known as Brainport Region; a European centre of science and technology. Eindhoven is a genuine student city, with a wide-ranging array of student facilities available.

'Brainport Eindhoven' region is a splendid environment for becoming a professional. This is the place where the high-tech companies design and improve state of the art

industrial and consumer products for customers all over the world.

Fontys Engineering is mainly based in the Nexus building at the premises of the Technical University of Eindhoven, but classes, practicals and projects can also take place at our satellite locations such as the Brainport Industry Campus and The Automotive Campus.

### Information about exchange programmes

- An exchange semester has a maximum study load of 30 credits (EC). 1 credit has a workload of 28 hours. It is possible to choose less credits in consultation with the home university
- Some programs are scheduled with reservation of sufficient applications
- **It is NOT possible to mix modules from different programs.**

### Accommodation

Fontys does not have its own student dormitories. We cooperate with several housing agencies. Through such cooperation, Fontys can provide students with guidance in finding accommodation for their exchange semester. Please note that applying for accommodation through Fontys does not automatically guarantee housing and applying for housing is part of the application procedure.

### Admission requirements

We rely on our partner institutions to ensure that students coming to study at Fontys have a sufficient level of English to cope in an academic environment. If any students level of English is considered (by their host tutors) to be inadequate, they may be asked to return home. We would like to be sure that students spending time at Fontys will derive genuine academic benefits from their study abroad period, so a reasonable competency in English is imperative for this very reason.

Every exchange programme has entry level requirements.

### Living expenses

Exchange students are exempted from paying tuition fees. The average living expenses per month for a foreign student living and studying in The Netherlands are between EUR 900 and EUR 1,100 per month. These living expenses cover rent, insurance, food, public transportation, books, clothing and other general costs.

# Exchange Programmes in Engineering

## Fall Semester: August 2023 – February 2024

<b>Electrical and Electronic Engineering S7 – Embedded Systems</b>	<b>Code</b>	<b>EC</b>	<b>Required background</b>
<b>Mandatory part of the program<sup>1</sup></b>			
Advanced Embedded Systems	EEBAES	<b>4</b>	3 years study Electrical & Electronic Engineering
Sensor Technology	EECST	<b>4</b>	
Advanced Power Electronics	EEAAPE	<b>4</b>	
Advanced Control Systems	EECACS	<b>4</b>	
Advanced Telecom / IoT	EEBATEL/IoT	<b>4</b>	
Digital System Design	EEBDSD	<b>4</b>	
Model-Based System Engineering	EEBMBSE	<b>2</b>	
Electromagnetic Compatibility 7	EECEMC7	<b>2</b>	
Project S7	EEAPRS7	<b>10</b>	

<sup>1</sup> This program consists of 30 ECTS. As the project is integrated with the courses provided in this program, the student must follow all mandatory courses (EEBATEL/IoT, EEBAES, EEBMBSE and EECEMC7) and choose two elective courses. Please note that for the elective courses, EECACS and EECST are given simultaneously, and you can only choose one. Similarly, EEBDSD and EEAAPE are given simultaneously, and you can only choose one.

<b>Electrical and Electronic Engineering S7 – Electronic Systems</b>	<b>Code</b>	<b>EC</b>	<b>Required background</b>
<b>Mandatory part of the program<sup>2</sup></b>			
Advanced Embedded Systems	EEBAES	<b>4</b>	3 years study Electrical & Electronic Engineering
Sensor Technology	EECST	<b>4</b>	
Advanced Power Electronics	EEAAPE	<b>4</b>	
Advanced Control Systems	EECACS	<b>4</b>	
Advanced Telecom / IoT	EEBATEL/IoT	<b>4</b>	
Digital System Design	EEBDSD	<b>4</b>	
Model-Based System Engineering	EEBMBSE	<b>2</b>	
Electromagnetic Compatibility 7	EECEMC7	<b>2</b>	
Project S7	EEAPRS7	<b>10</b>	

<sup>2</sup> This program consists of 30 ECTS. As the project is integrated with the courses provided in this program, the student must follow all mandatory courses (EECST, EEAAPE, EEBMBSE and EECEMC7) and choose two elective courses. Please note that for the elective courses, EECACS and EEBAES are given simultaneously, and you can only choose one. Similarly, EEBDSD and EEBATEL/IoT are given simultaneously, and you can only choose one.

<b>Mechatronics Engineering S7 – Advanced Motion Control</b>	<b>Code</b>	<b>EC</b>	<b>Required background</b> 3 years study Mechatronics Engineering
<b>Mandatory part of the program<sup>1</sup></b>			
Applied Control Engineering 7	MAACE7 (S7)	4	
Dynamic Modelling & Design 7	MADMD7 (S7)	4	
Observers 7	MAOBS7 (S7)	4	
Advanced Embedded Systems 7	MBAES7 (S7)	4	
System Engineering and Architecture	MASEA7	2	
Project S7	MAPRS7	10	
<b>Optional subject to complete the program (select one of the following two courses):</b>			
Machine Safety and Testing	MAMST7	2	
Applied Research	MAAPR7	2	
<i>*This program consists of 30 ECTS. As the project is integrated with the courses provided in this program, the student must follow all mandatory courses and select one of the optional courses.</i>			

<b>Mechatronics Engineering S7 – Adaptive Automation Systems</b>	<b>Code</b>	<b>EC</b>	<b>3 years study</b> Mechatronics Engineering
<b>Mandatory part of the program<sup>1</sup></b>			
Mechatronic Systems 7	MBMSY7	4	
Design for Industrial Automation 7	MBDIA7	4	
Autonomous and Intelligent Systems 7	MBAIS7	4	
Digital Twin 7	MBDIT7	4	
System Engineering and Architecture	MASEA7	2	
Project S7	MAPRS7	10	
<b>Optional subject to complete the program (select one of the following two courses):</b>			
Machine Safety and Testing	MAMST7	2	
Applied Research	MAAPR7	2	
<i>*This program consists of 30 ECTS. As the project is integrated with the courses provided in this program, the student must follow all mandatory courses and select one of the optional courses.</i>			

<b>Mechanical Engineering S7 – Precision Engineering</b>	<b>Code</b>	<b>EC</b>	3 years study Elec Engineering
<b>Mandatory part of the program</b>			
Design Principles for Precision	WACM5 (S7)	4	
Production and Materials for Precision	WAPM13 (S7)	4	
Dynamic Behaviour of High-Tech System	WADG2 (S7)	4	
Finite Element Method (FEM)	WACM10 (S7)	4	
System Engineering 7	MDSYE (S7)	2	
Design for Excellence	WADFX (S7)	2	
Project S7	WAPRS7	10	

<b>Minor Adaptive Robotics</b>	<b>EC</b>	2 years study bachelor level
<b>Mandatory part of the program</b>	<b>30</b>	
Project based, technology-oriented minor.		

<b>Minor Be Creative</b>	<b>EC</b>	2 years study bachelor level
<b>Mandatory part of the program</b>	<b>30</b>	
Project based, technology-oriented minor.		

<b>Minor EmbraceTEC</b>	<b>EC</b>	2 years study bachelor level
<b>Mandatory part of the program</b>		

Integrated programme of workshops, group work, coaching, and assessment	30
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