Université Grenoble Alpes

UFR PhITEM (physique, ingénierie, terre, environnement, mécanique)

Master in Electronics, electrical energy, automation

Wireless integrated circuits and systems (WICS)

Presentation

The WICS (Wireless integrated circuits and systems) master is a master degree focusing in integrated circuit and system design for Analog/Mixed/RF & millimeterwave applications. It gives students the opportunity to learn advanced skill sets with projects led by high-level research units ; the techniques and methodologies they will need to promote their research on an international level will be studied.

With a **curriculum focusing on theoretical knowledge supported by practical applications**, the WICS master prepares students for a career in both the **international research community and the professional applications**. As they finish their training, graduate students are fully ready to pursue a career in thriving fields such as the Internet of Things, future wireless communication systems, sensor networks, or medical applications.

Registration and scholarships

- **1st year of master WICS degree :** The prospective student should have completed at least **three full years of university** studies (180 ECTS)
- **2nd year of master WICS degree :** The prospective student should have completed at least **four full years of university** studies (a first year of Master's degree, bachelor or equivalent degree with 240 ECTS), have followed basic classes in Electronics and Radio Frequency, prove an English proficiency with CEFR (B2), TOEFL (IBT 87-109), IELTS (5.5-6.5), TOEIC (785-945) or equivalent. Students coming from English-speaking countries or/and who had a University curriculum in English are considered proficient enough. If you don't have the opportunity to take the test in your home University, an English test is organized during the first week of the classes, to check the level of everyone
- **Double degree program :** The prospective student should have completed at least three full years of university studies (180 ECTS) in the fields of Electronics or Applied physics, prove an English proficiency with CEFR (B1), IELTS (5.0), or equivalent as a minimum. Both certificates from an accredited institution and/or statements from the home institution are accepted

For candidates whose country of residence is not included in the "Studies in France" portal (PEF) scheme, the calendar for the eCandidat application campaigns is available here

Public continuing education : You are in charge of continuing education :
• if you resume your studies after 2 years of interruption of studies
• or if you followed training under the continuous training regime one of the previous 2 years
• or if you are an employee, job seeker, self-employed

If you do not have the diploma required to integrate the training, you can undertake a validation of personal and professional achievements (VAPP)

You want to apply and sign up for a master ? Please be aware that the procedure differs depending on the diploma you want to take, the diploma you have already obtained and, for foreign students, your place of residence. Let us be your guide – simply follow this link

Further studies

PhD

UFR PhITEM (physique, ingénierie, terre, environnement, mécanique)

Practicals informations :

- **School :** UFR PhITEM (physique, ingénierie, terre, environnement, mécanique)
- **Duration :** 2 years
- **Course type :** Initial and Continuing Education
- **Location(s) :** Grenoble - Scientific Polygon
- **Contacts :**

Programme director

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Programme administration

Application
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Program

Master in Electronic Systems (SE) 1st year

Semestre 7

UE State-space representation	3 ECTS	28h
UE Entrepreneurial project management	3 ECTS	25h
UE Automata and embedded systems	6 ECTS	50h
UE Advanced random signal processing	3 ECTS	24,5h
UE Radiofrequency electronics	3 ECTS	24h
UE Analog and digital transmission systems	3 ECTS	30h
UE SE project part 1	3 ECTS	21h
UE SE project part 2	3 ECTS	26h
UE Operating systems (C,C++)	3 ECTS	25,5h

Semester 8

UE SISO Feedback control	3 ECTS	39h
UE Electromagnetic compatibility	3 ECTS	30h
UE Internship	6 ECTS	
UE Antennas	3 ECTS	24h
UE Real-time operating systems (OS, RTOS)	3 ECTS	25,5h
UE Design in micro-nano electronics	3 ECTS	25h
UE SE project part 3	3 ECTS	24h
UE Coding and information theory	3 ECTS	27,5h

1 option (s) to choose from 2

UE English	3 ECTS	
UE Transverse teaching of choice		

Master 2nd year

Semester 9

UE Radiofrequency Communication Systems	6 ECTS	62h
UE Radiofrequency Integrated Circuits	6 ECTS	52h
UE Microwave Circuits	6 ECTS	48h
UE Antennas and Electromagnetic Compatibility	3 ECTS	26h
UE Integrated technologies & process of fabrication	3 ECTS	28h
UE Specialty courses	3 ECTS	32h
UE Research lab work	3 ECTS	48h

Semestrer 10

UE Research internship	24 ECTS	
UE Research lab work	3 ECTS	48h

1 option (s) to choose from 2

UE French as a foreign language	3 ECTS	
UE English	3 ECTS	30h