INTEGRATED

INTEGRATED SYSTEMS AND CIRCUITS DESIGN

MASTER | WORK-FRIENDLY

STUDY & WORK

Location: Campus Villach
Europastraße 4, 9524 Villach

Duration: 4 semesters

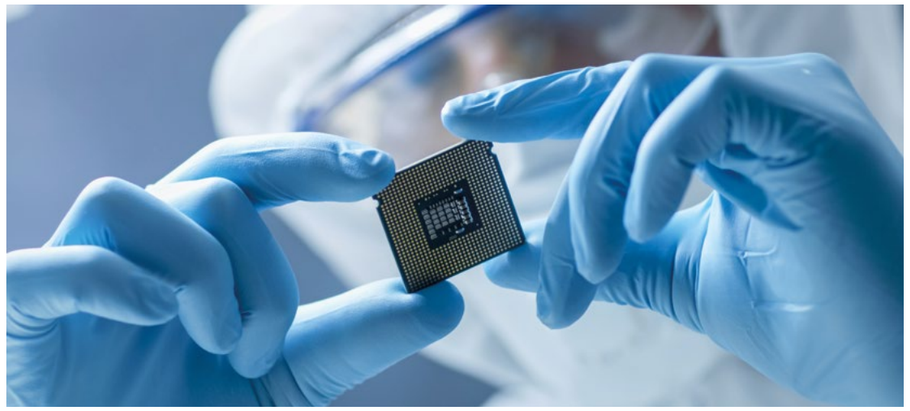
Schedule:
Mon-Fri 4:00 - 7:20 pm. Occasionally before 4:00 pm or in the morning; + 2-3 Sat per month; classroom teaching with online parts.

Academic Degree:
Master of Science in Engineering (MSc)

ECTS Credits: 120

Language: English

Study places per year: 20



Integrated circuits have seen an unprecedented development over the last six decades. Fabrication technologies with structure sizes down to 5 nm allow always more complex, more reliable and more cost efficient solutions, reaching new application areas. Due to new requirements and especially due to the enormous complexity, new challenges in the design of integrated systems and circuits have to be faced. The master degree programme ISCD – Integrated Systems and Circuits Design provides the necessary knowledge to tackle these challenges.

COURSE INFORMATION

The first 2 semesters consist of basic courses. The specialization in either analogue or digital integrated circuits and integrated systems solutions, takes place in the 3rd semester. In the last semester students write their thesis, which is accompanied by seminars, presentations and technical discussions.
The practical aspect is emphasized by project modules, spanning from 1st to 3rd semester - starting with designing an integrated circuit in a small team and later implementing a testchip. After the fabrication of the testchip, samples will be evaluated by the students with state of the art test equipment.

JOBS AND CAREER

The typical graduate will be working for integrated circuit manufacturers, fabless foundries, design houses or suppliers of system solutions using VLSI components.

Research and development in the field of microelectronics is done in close cooperation with Austrian and international partners. So, students have the opportunity to write their master thesis with a company or apply for an internship. For more information on current and completed projects in the area of microelectronics: www.fh-kaernten.at/iscd

CURRICULUM

1st Semester	ECTS
Analog Integrated Circuits 1	5
Digital Integrated Circuits 1	5
Integrated Circuits Technology	5
Introduction to Integrated Circuits Design Project	5
Computer Aided Design 1	5
Methods in Systems and Circuits Theory	5
Foreign Language (1)	5
Total	30

2nd Semester	ECTS
Analog Integrated Circuits 2	5
Digital Integrated Circuits 2	5
Computer Aided Design 2	5
System Modelling and Verification	5
Design and Implementation of Analog Circuits and Systems	5
Design and Implementation of Digital Circuits and Systems	5
Total	30

3rd Semester	ECTS
Verification of Integrated Circuits and Systems	5
Radio-Frequency Circuits and Systems	5
Integrated Sensors	5
Smart Power Integrated Circuits	5
Advanced Topics in Mixed Signal Design (elective)	5
Integrated Data Converters	
Analog Integrated Circuits 3	
Advanced Topics in System-on-Chip Design (elective)	5
System-on-Chip and Embedded Computing	
Integrated Circuits Design Automation	
Total	30

4th Semester	ECTS
Master Thesis	24
Master Thesis Seminar	3
Master Exam	3
Total	30
Total Sum	**120**

ECTS = European Credit Transfer System

"In the last decades several High Tech Companies did settle down in the South of Austria, in Carinthia. I started my career over here in the end Nineties. In my former job, as Manager at INTEL Austria, and also now, as Site Manager of MaxLinear Austria, I appreciate a lot the excellent cooperation with Fachhochschule Kärnten, especially with the ISCD team. Learning at the ISCD gives the student the chance to get in touch with people from world class companies in the field of Semiconductor Design and Manufacturing. Graduating at ISCD does mean that you will be best prepared for an exciting and excellent paid job in the High Tech Semiconductor Industry. This statement does get underlined by the fact that several employees from MaxLinear Austria went this way – from ISCD Master Program directly to our team, working with us on leading edge Communication IC product development projects."

PETER PESSL, COMMERCIAL MANAGER MAXLINEAR AUSTRIA GMBH

DATES

Start: 1st October 2023

Study guidance:
info@fh-kaernten.at | +43 5 90500 7700

FH Days and information events:
all dates at www.fh-kaernten.at/study-guidance

€ COSTS

Tuition fee: € 363.36 per semester

Student Union Fee: around € 22, annual adjustment

CONTACT

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