International Master’s Programme in Embedded Electronics Engineering

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Courses in EEE program from autumn 2020

• Experiences and know-how in embedded electronics engineering are widely applicable and are (most of the time) the key enabler to emerging applications.

• The core of the programme is applied studies in digital IC design, analogue/RF IC design and mixed signal/data conversion IC design.

• Besides the compulsory courses in electronics, the EEE program provides a wide range of elective courses in machine learning, AI, wireless communication, computer science, signal processing, etc. Students can include four of these courses in their degree.

• Full time studies is 30 credits per semester. Each semester is divided into two study periods. We advise students not to take more than 3 courses of 7.5 cr in each study period.
Courses Overview from autumn 2020

Year 1
- Autumn 2: EITM02 Master thesis, after 60ECTs
- Spring 1: ETINT55 Integrated A/D and D/A Converters
- Spring 2: ETIN35 IC-Project 1, ETIA10 Patent and Intellectual Property Rights

Year 2
- Autumn 1: ETIN40 IC-Project 2, EITF50 An Introduction to Wireless Systems
- Autumn 2: EITN15 Modern Wireless Systems - LTE and Beyond, EITF50 RF Amplifier Design
- Spring 1: EITN45 DSP-Design, EITN10 Modern Electronics
- Spring 2: EITN30 Integrated Radio Electronics (given 2021), EITN70 Modern Electronics

Compulsory
- Elective in Electronics
- Elective in Wireless Com.
- Elective in Computer Sci.
- Elective in Devices
- Elective in Signal Proc.
- Elective in Radar
- Elective in AI/ML

All courses are 7.5 cr, except the thesis of 30 cr.
## Suggested Digital Track

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### Year 1
- **ETIN20** Digital-IC Design
- **ETIN25** Analogue IC-design
- **EITF35** Intro. to Structured VLSI Design
- **ETIN45** DSP-Design
- **EDAN45** Machine Learning
- **FMNN25** Advanced Numerical Alg. with Python/Scipy

### Year 2
- **ETIN35** IC-Project 1
- **ETIN40** IC-Project 2
- **ETIN30** Integrated Radio Electronics (given 2021)
- **EITM02** Master thesis, after 60ECTs
- **EITF50** An Introduction to Wireless Systems
- **ETIN50** RF Amplifier Design
- **EITN75** Wireless System Design Principles
- **ETTN15** Modern Wireless Systems - LTE and Beyond
- **ETIP01** High-Speed Devices
- **EITP05** Nano Electronics
- **EDAN70** Projects in Computer Science
- **BMEN20** Project Course in Signal Proc.
- **EITN90** Radar and Remote Sensing
- **EDAN95** Applied Machine Learning
- **EDAN55** Integrated A/D and D/A Converters
- **ETIA10** Patent and Intellectual Property Rights
- **EITF20** Computer architecture
- **ETIN55** Integrated A/D and D/A Converters
- **ETIN35** IC-Project 1
- **ETIN40** IC-Project 2

### All courses are 7.5 cr, except the thesis of 30 cr.
### Suggested Analogue Track

#### Year 1
- **Autumn 1**: ETIN20 Digital-IC Design, ETIN25 Analogue IC-design, EITF35 Intro. to Structured VLSI Design
- **Autumn 2**: ETIN55 Integrated A/D and D/A Converters
- **Spring 1**: ETIN30 Integrated Radio Electronics (given 2021), EITN70 Modern Electronics
- **Spring 2**: ETIN75 Wireless System Design Principles, EITP05 Nano Electronics

#### Year 2
- **Autumn 1**: ETIN35 IC-Project 1, EITF50 An Introduction to Wireless Systems
- **Autumn 2**: ETIN40 IC-Project 2
- **Spring 1**: EITN45 DSP-Design, FMNN25 Advanced Numerical Alg. with Python/Scipy
- **Spring 2**: EITM02 Master thesis, after 60ECTs

**Compulsory**
- Elective in Electronics
- Elective in Wireless Com.
- Elective in Computer Sci.
- Elective in Devices
- Elective in Signal Proc.
- Elective in Radar
- Elective in AI/ML

**Elective**
- EDAN70 Projects in Computer Science
- EITN90 Radar and Remote Sensing

*All courses are 7.5 cr, except the thesis of 30 cr.*