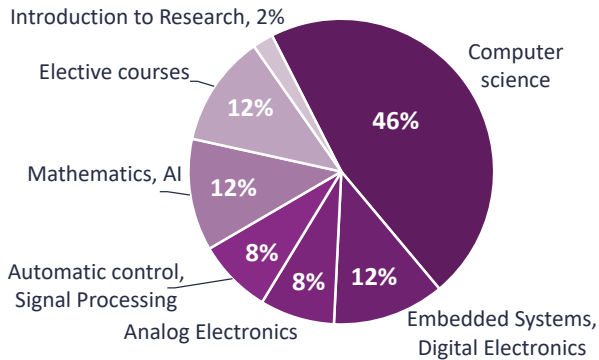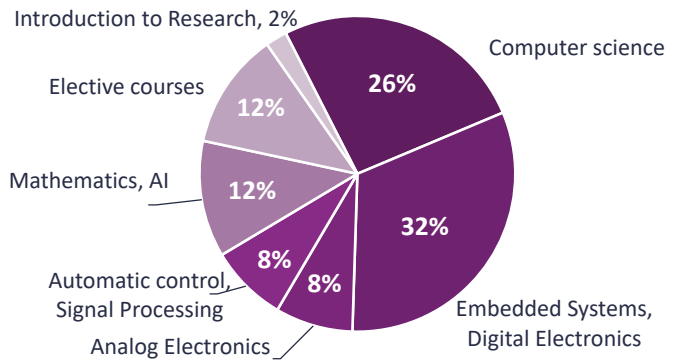# Engineering Program Specializations

Secure Information Systems

- Software development: algorithmics, software engineering, language theory, compilation
- Networks: architecture, infrastructures, interconnections, services and applications
- Security: cryptography, network and systems security, software security, hardware/software security
- Operating systems: principles, architecture and administration

Introduction to Research, 2%
Elective courses 12%
Mathematics, AI 12%
Automatic control, Signal Processing 8%
Analog Electronics 8%
Computer science 46%
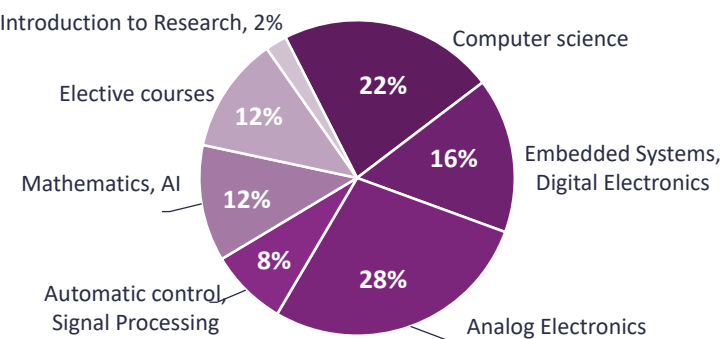Embedded Systems, Digital Electronics 12%

Secure Embedded Systems

- Algorithmics, Design, Program implementation
- Embedded development: from design to runtime
- System security: from hardware to software
- Hardware and software validation
- Embedded system design (languages, hardware architecture, FPGA design)

Introduction to Research, 2%
Elective courses 12%
Mathematics, AI 12%
Automatic control, Signal Processing 8%
Analog Electronics 8%
Computer science 26%
Embedded Systems, Digital Electronics 32%

Communicating Embedded Electronic Systems

- Analog and embedded electronics
- Sensors and associated systems
- Digital electronics
- Hardware/software design
- Embedded computing
- Radiofrequency (RF) and communicating objects

Introduction to Research, 2%
Elective courses 12%
Mathematics, AI 12%
Automatic control, Signal Processing 8%
Computer science 22%
Embedded Systems, Digital Electronics 16%
Analog Electronics 28%

Embedded Control-Command Systems

- Servo systems, control theory, advanced control
- Identification, analysis and simulation of dynamic systems
- Implementation on real-time embedded systems
- Design/Engineering of autonomous systems
- Distributed control of large-scale systems

Introduction to Research, 2%
Elective courses 12%
Mathematics, AI 12%
Automatic control, Signal Processing 28%
Computer science 22%
Embedded Systems, Digital Electronics 16%
Analog Electronics 8%