

2026-2027: Computer Science GENERAL

- CS CORE: [Computer Ethics](#) (5EC, Q2)
- CORE SPECIALIZATION COURSES (20 EC): 4 mandatory courses
- ADVANCED SPECIALIZATION COURSES (at least 20 EC): Choice 4 out of x
- PROFILING SPACE (+/- 0-35 EC): More ADVANCED courses, other specializations courses or courses from related MSc programmes (EE, EMSYS, BIT, ITECH, AM, ROB), [Internship](#), [Exchange](#).
Note. Some specializations have additional requirements, e.g. ST orientation, CYB socio-tech
- GRADUATION (40 EC): [Research Topics](#) (10EC) (preparation) + [Final project](#) (30EC) (project)

NOTE! This is a simplified overview. For a more complete overview and info on additional courses/electives, EIT Digital/SPECTRO and requirements:

Cyber Security: www.utwente.nl/en/cs/programme/specialisations/cyb

Software Technology: www.utwente.nl/en/eemcs/fmt/education/st/

Data Science & Technology: www.utwente.nl/en/cs/programme/specialisations/dst

Internet Science & Technology: www.utwente.nl/en/cs/programme/specialisations/ist

Sustainable Computing: www.utwente.nl/en/cs/programme/specialisations/susco/

Quartiles: 1 (Sep-Nov), 2 (Nov-Feb), 3 (Feb-Apr), 4 (Apr-Jul); Year = can be started anywhere during the year; Sem = runs over a semester

SPECIALIZATION SOFTWARE TECHNOLOGY

Mandatory core (20 EC)

| | |
|--|---|
| System Validation | 1 |
| Design of Software Architectures | 2 |
| Software Testing and Risk Assm. | 3 |
| Software Evolution | 4 |

Advanced (at least 4)

| | |
|---|---|
| ADSA-Model driven engineering | 1 |
| Modeling and Analysis of Concurrent Systems | 1 |
| Graph Algorithms and Complexity | 2 |
| Interactive Theorem Proving | 2 |
| Service-oriented Architecture with Web services | 3 |
| Quantitative evaluation of Systems | 3 |
| Software Management | 4 |
| Advanced Logic | 4 |

Design orientation (10 EC)

| | |
|---|-------|
| Industrial Software Engineering project | Sem 1 |
|---|-------|

Research orientation (10 EC)

| | |
|---|------|
| Software Science (13,14,49,16) Alternate, each offered every two years | 3, 4 |
| Capita selecta ST | Year |

SPECIALIZATION DATA SCIENCE AND TECHNOLOGY

Mandatory core (20 EC) DST

| | |
|--|------|
| Machine learning 1 | 1 |
| Managing big data | 2 |
| Topics in Data Science | 2, 3 |
| Information theory and statistics | 3 |

Advanced (at least 4)

| | |
|--|---|
| FAIR Data Engineering | 1 |
| Foundations of IR or Natural Language Processing | 1 |
| Image Processing and Computer Vision | 1 |
| Deep Learning – theory to practice | 2 |
| Architectures of IS | 2 |
| Multimodal Machine Learning | 3 |
| Probabilistic programming | 3 |
| Ontology-Driven Conceptual Modeling | 4 |
| Foundation Models | 4 |

SPECIALIZATION INTERNET SCIENCE AND TECHNOLOGY

Mandatory core (20 EC)

| | |
|--|---|
| Internet of Things | 1 |
| Performance evaluation | 2 |
| Mobile and wireless networking | 3 |
| Internet security | 3 |

Advanced (at least 4)

| | |
|---|------|
| Advanced Networking | 1 |
| Empirical Security Analysis and Engineering | 2 |
| Cloud Networking | 2 |
| Service-oriented Architecture with Web services | 3 |
| Pervasive Computing | 3 |
| Sustainable Wireless Networks (prev. Ad-hoc) | 4 |
| Internet Measurements | 4 |
| Distributed Systems | 4 |
| Security Services for IoT | 4 |
| Automated Vulnerability Research and Mitigation | 4 |
| Dependable Networking | Year |

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All UT courses can be found in our Course Catalogue: www.utwente.nl/coursecatalogue

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SPECIALIZATION SUSTAINABLE COMPUTING

| Mandatory core (20 EC) | |
|---|---|
| Building Blocks for Sustainable Computing Systems theory | 1 |
| Building Blocks for Sustainable Computing Systems practices | 1 |
| Performance Evaluation. | 2 |
| Computing & Communications Continuum | 1 |

| Advanced (at least 4) | |
|-------------------------------------|---|
| Internet of Things | 1 |
| Distributed Systems | 4 |
| Mobile and wireless networking | 3 |
| Sustainable Wireless Networks | 4 |
| Advanced Networking | 1 |
| Internet Measurements | 4 |
| Green Software Development | 2 |
| Advanced Computer Systems | 4 |

SPECIALIZATION CYBER SECURITY

| Mandatory core (20 EC) | |
|---|---|
| Security & cryptography | 1 |
| Software Security | 2 |
| Internet security | 3 |
| AI for Security (prev. Cyber data An.) | 4 |

| Advanced (at least 4) | |
|---|------|
| Secure Data Management | 1 |
| Secure Cloud Computing | 1 |
| System Validation | 1 |
| Intr. to Biometrics | 1 |
| Quant. Comp. & Post-Quant. Crypt. | 2 |
| Emp. Security Analysis & Eng. | 2 |
| Privacy Enhancing Tech. Bootcamp | 2 |
| Blockchain and distr. ledger techn | 3 |
| Security Services for IoT | 4 |
| System Security | 4 |
| Autom. Vulnerab. Research & Mitig. | 4 |
| Security Verification | Year |

| Socio-technical (at least 1) | |
|---|---|
| Cyber risk management | 1 |
| E-Law | 4 |
| Economics of Cyber Security | 1 |
| Security Experiments - Part I | 3 |
| Security Experiments - Part II | 4 |

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