

2024-2025: 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
- 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/csc/programme/specializations/cyber-security/

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

Data Science and Technology: www.utwente.nl/en/csc/programme/specializations/data-science-and-technology/

Internet Science and Technology:

www.utwente.nl/en/csc/programme/specializations/internet-science-and-technology/

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 (previously Q1)	2
Software Testing and Risk Assm.	3
Software Evolution (previously Q3)	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
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Research orientation (10 EC)

Software Science (13 , 14 , 15 , 16) Alternate every two years	3, 4
Capita selecta ST	Year

SPECIALIZATION CYBER SECURITY

Mandatory core (20 EC)

Security & cryptography	1
Cyber risk management	1
Software Security	2
Internet security	3

Advanced (at least 4)

Secure Data Management	1
Secure Cloud Computing	1
System Validation	1
Intr. to Biometrics	1
Emp. Security Analysis & Eng.	2
Privacy Enhancing Tech. Bootcamp (previously Q4)	2
Blockchain and distr. ledger techn	3
E-Law	4
Security Services for IoT	4
System Security	4
Cyber Data Analytics	4
Automated Vulnerability Research and Mitigation	4
Security Verification	Year

SPECIALIZATION DATA SCIENCE AND TECHNOLOGY

Mandatory core (20 EC) DST

Machine learning 1	1
Managing big data	2
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
Machine Learning 2	2
Architectures of IS (previously Q4)	2
Probabilistic programming	3
Ontology-Driven Conceptual Modeling	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
Ad-Hoc Networks	4
Internet Measurements	4
Distributed Systems	4
Security Services for IoT	4
Automated Vulnerability Research and Mitigation	4
Dependable Networking	Year