

2023-2024: Computer Science GENERAL

- CS CORE: [Computer Ethics](#) (5EC, 1B)
- 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 specialization courses, or electives from other CS specializations or related Master's programmes (EE, EMSYS, BIT, ITECH, AM, ROB), Internship, Exchange.

Note. Some specializations have additional requirements, e.g. ST orientation, SDS profile.

NOTE! This is a simplified overview. For a more complete overview and info on additional courses/electives, EIT Digital 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)	
Design of Software Architectures	1
Software Testing and Risk Assm.	3
Software Engineering Techniques (previously PPPP)	4
System Validation	1

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

Design orientation (10 EC)	
Industrial Software Engineering project	Sem 1
Research orientation (10 EC)	
Software Science (13,14,15,16)	3, 4
Capita selecta ST	Year

SPECIALIZATION CYBER SECURITY*

Mandatory core (20 EC)	
Internet security	3
Software Security	2
Security & cryptography**	1
Cyber risk management**	1

Advanced (at least 4)	
Secure Data Management	1
Secure Cloud Computing	1
Security Services for IoT	4
Security Verification	Year
System Security	4
System Validation	1
Cyber Data Analytics**	4
Privacy Enhancing Tech. Bootcamp** (previously Q4)	2
Intr. to Biometrics	2
Blockchain and distr. ledger techn	3
Emp.Security Analysis & Eng. (CANCELLED)	2
E-Law	4
Cyber security management	2

*Previous cohorts can find their programme at www.4tu.nl/cybsec
**may be replaced by their 4TU (TUD) equivalent.

SPECIALIZATION DATA SCIENCE AND TECHNOLOGY and SPORT DATA SCIENCE

Mandatory core (20 EC) DST & SDS	
Managing big data	2
Data science	2, 3
Machine learning 1	1
Information theory and statistics	3

Advanced (at least 4)	
Machine Learning 2	2
Foundations of IR or Natural Language Processing	1
Image Processing and Computer Vision	1
Deep Learning – theory to practice	2
DST Architectures of IS	4
DST Probabilistic programming	3
SDS Adv. Techniques for Signal Analysis	3
SDS Time Series Analysis	4
SDS Sports Interaction Technology	4
SDS Data Science add. topics	2, 3

SDS profiling courses: at least 27 EC	
Mandatory profiling courses see: www.utwente.nl/en/csc/programme/specializations/data-science-and-technology/#profiling-space-sds	

SPECIALIZATION INTERNET SCIENCE AND TECHNOLOGY

Mandatory core (20 EC)	
Internet security	3
Performance evaluation	2
Mobile and wireless networking	3
Internet of Things	1

Advanced (at least 4)	
Advanced Networking	1
Service-oriented Architecture with Web services	3
Cloud Networking	2
Ad-Hoc Networks	4
Internet Measurements	4
Pervasive Computing	3
Distributed Systems	4
Security Services for IoT	4
Empirical Security Analysis and Engineering (CANCELLED)	2
Dependable Networking	Year