Master Admission Requirements

last modified: 11-10-2023

Faculty of Science and Technology
Applied Physics
Biomedical Engineering
Chemical Engineering
Nanotechnology

Faculty of Engineering Technology
Civil Engineering and Management
Construction Management and Engineering
Industrial Design Engineering
Mechanical Engineering
Sustainable Energy Technology

Faculty of Electrical Engineering, Mathematics and Computer Science
Applied Mathematics
Business Information Technology
Computer Science
Electrical Engineering
Embedded Systems
Interaction Technology
Robotics

Faculty of Behavioural, Management and Social Sciences
Business Administration
Industrial Engineering and Management

Faculty of Geo-information Science and Earth Observation (ITC)
Spatial Engineering

Note: the master admission requirements listed are an indication of what is required to become admissble for the masters' programmes. Always check if these requirements still apply with the master's programme you choose.

Note: in addition to fulfilling the requirements set by a master's programme, there is often room for other elective courses and/or modules. Please be aware of any rules and admission requirements, e.g. no overlap in content & sufficient difficulty level. Furthermore, access to elective courses can be restricted, depending on prior knowledge & rules adhered to by the module and coordinating studies (e.g. B-TCS modules can only be taken as a whole). Contact your study advisor to specify your plans.

Master: Applied Mathematics

Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/am/

Contact person Drs. J. Schut

Procedure for admission

Before the minor registration deadline, please arrange a meeting with your study advisor and Jan Schut (AM coordinator) to discuss the requirements for the master's programme. Requirements may be subject to change depending on overlap in B-AT subjects.

Track: Operations Research (OR)

Block	code	name	EC	Remarks
(B2) 1.A	202000630	Programming in Engineering	4	**Recommended** - choose Matlab rather than Python
1.A	202200141	Linear Structures 1	5	
	202300016	Mathematical Statistics 1	7	
	201600167	Introduction to Mathematical Analysis	4	Block 1A, 1B, 2A
1.B	202200236	Linear Structures 2	4	
	202300026	Mathematical Statistics 2	5	
	202001180	Introduction to MOR	6	
2.A			11	Free choice
	202000668	Preparation Bachelor Assignment AT	4	Year
2.B	202000670	Bachelor Assignment	15	

Track: Mathematics of Data Science (MDS)
AI4Health

Block	code	name	EC	Remarks
(B2) 1.A	202000630	Programming in Engineering	4	**Recommended** - choose Matlab rather than Python
1.A	202200141	Linear Structures 1	5	
	202300016	Mathematical Statistics 1	7	
	201600167	Introduction to Mathematical Analysis	4	Block 1A, 1B, 2A
1.B	202200236	Linear Structures 2	4	
	202300026	Mathematical Statistics 2	5	
	202300028	Nonlinear Optimisation and Learning	5	
2.A			11	Free choice
	202000668	Preparation Bachelor Assignment AT	4	Year
2.B	202000670	Bachelor Assignment	15	

Track: Mathematical Systems Theory, Applied analysis and Computational Science (SACS)

Block	code	name	EC	Remarks
(B2) 1.A	202000630	Programming in Engineering	4	**Recommended** - choose Matlab rather than Python
1.A	202200141	Linear Structures 1	5	
	202300016	Mathematical Statistics 1	7	
	201600167	Introduction to Mathematical Analysis	4	Block 1A, 1B, 2A
1.B	202200236	Linear Structures 2	4	
	202200238	Systems Theory	5	
	202300028	Nonlinear Optimisation and Learning	5	
2.A			11	Free choice
	202000668	Preparation Bachelor Assignment AT	4	Year
2.B	202000670	Bachelor Assignment	15	

= Optional

Master: Applied Physics

Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/ap/

Contact person Dr. D. Djokovic (Dejana)

Procedure for admission

Before the minor registration deadline you should arrange a meeting with Carlijn van Emmerik or Dejana Djokovic, study advisors of Applied Physics. Together you can go over the master's programme and choose a master's specialization.

Specialization: **Physics of Fluids**
Soft Matter

Block	code	name	EC	Remarks	Minor
1.A	*202000659*	*Condensed Matter Physics:*		*AT M9*	IM
	202000660	Introduction Solid State Physics	5		
	202000661	Statistical Physics	5		
	202000662	Optics	2,5	Necessary pre-knowledge for 202000697 Optics block 1B	
	202000663	Molecular Structure and Spectroscopy	2,5		
1.B	202200094	Quantummechanica 1 (Quantum mechanics)	5		
	202200095	Hilbertruimte (Hilbert Spaces)	3		
	202000668	Preparation Bachelor Assignment AT	4	Year	
			3	Free choice	
2.A	202000670	Bachelor Assignment	15	*AT M12*	
2.B	202300023	Vloeistoffysica Theorie (Physics of fluids)	4,5		
	202300024	Vloeistoffysica Practica (Physics of fluids)	2,5		
	202000706	Electrodynamica (Electrodynamics)	6	Mandatory in either B or M; *part of TN M8*	

Specialization: **Applied Nanophotonics**
Nano Electronic Materials
Energy, Materials & Systems

Block	code	name	EC	Remarks	Minor
1.A	*202000659*	*Condensed Matter Physics:*		*AT M9*	IM
	202000660	Introduction Solid State Physics	5		
	202000661	Statistical Physics	5		
	202000662	Optics	2,5	Necessary pre-knowledge for 202000697 Optics block 1B	
	202000663	Molecular Structure and Spectroscopy	2,5		JM
1.B	*202000696*	*Golven, Interferentie & Waarschijnlijkheid*		*TN M6 - Waves, Interference & Probability*	
	202200094	Quantummechanica 1 (Quantum mechanics)	5		
	202200095	Hilbertruimte (Hilbert Spaces)	3		
	202001485	Optica Theorie (Optics Theory)	4,5		
	202300063	Optica Practica (Optics Practicals)	2,5		
2.A			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000706	Electrodynamica (Electrodynamics)	6	Mandatory in either B or M; *part of TN M8*	
	202000670	Bachelor Assignment	15	*AT M12*	

IM: in-depth minor module
JM: Join-in Minor module
HM: High Tech/Human Touch Minor module

= Optional

Master: Business Administration

Admission requirements 2023/2024

Webpage	https://www.utwente.nl/en/ba/
Contact person	C.G.M. Röring

Procedure for admission

All students considering this master, please contact the study advisor, Ms C.G.M. Röring, by sending an e-mail or by making an appointment before the first quarter of your third year.

Block	code	name	EC	Remarks	minor
1.A	*202000560*	*Strategy, Marketing & Economics*		*IBA M5*	x
	202000561	Strategy, Marketing & Economics Core	12		
	202000562	Data Analysis 2: More about Inf. Stat.	3		
1.B	202000595	High Tech Talent Management in a Global Context	15	*IBA M10*	IM
2.A			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

Before the start of the academic year, communicate names of students to BA that will take these modules as premaster.

IM: in-depth minor module
JM: Join-in Minor module
HM: High Tech/Human Touch Minor module

Master: Business Information Technology

Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/mbit/

Contact person Drs. M. van Grinsven

Procedure for admission

At the end of the third year, please contact the programme coordinator Ms. M. van Grinsven for admission to the master's programme. It is required to register for B-BIT modules/courses via the minor registration.

Block	code	name	EC	Remarks	minor
1.A	*202000410*	*Finance for Engineers BIT**		*BIT M5*	JM
	202000411	Accounting and Finance	3,5		
	202000412	Option Pricing	2,5		
	202000413	Project Finance for Engineers	6		
	202100211	IT & Law	3		
1.B	*202001064*	*Software Development (without Calculus 1B) ** *		*BIT M2*	JM
	202001065	System design	4		
	202001066	Programming	8		
	201400385	Introduction to Mathematical Analysis	3	Possible replacement for Caculus 1B	
2.A			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

Note*: Finance for Engineers BIT may be replaced by 202000420 From product design to online business (BIT M7), or 202001067 Business Intelligence and IT (BIT M3 without linear algebra) if the student would like to spend the third quarter for preparation.
Note**: Software Development may be replaced by 202300185 Software Systems (TCS M2)

IM: in-depth minor module
JM: Join-in Minor module
HM: High Tech/Human Touch Minor module

= Optional

Master: Biomedical Engineering

Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/bme/

Contact person J. Huttenhuis
studyadviser-bmt@utwente.nl

Procedure for admission

Before the registration period of the minors (around the start of the 2nd semester of your 2nd year) please arrange a meeting with a BME study advisor. You need to talk with one of them before you can start the minor.

Students are requested to do their Bachelor Assignments in the BME domain. For an extensive list of research groups affiliated with BME, please contact your study advisor.

Track: Physiological Signals and Systems

Block	code	name	EC	Remarks	minor
(B2) 1.B	*202001139*	*Systems & Control* ***OR***		*AT M6c*	JM
	202001140	Control Engineering	5		
	202001141	Engineering System Dynamics	5		
	202001142	Project Systems & Control	5		
1.A	202200071	Biorobotics*	15	*BMT M9* - Overlap with M6c*	HM
1.B			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.A	202000670	Bachelor Assignment	15	*AT M12*	
2.B	202000851	Brain Physiology and Mechanical Science	15	*BMT M8 (in Dutch: Brein in Balans)*	x

Track: Imaging and Diagnostics

Block	code	name	EC	Remarks	minor
1.A			15	Free choice	
1.B	202000855	Imaging and Diagnostics	15	*BMT M10 (in Dutch)*	IM
2.A			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

Track: Bioengineering technologies

Block	code	name	EC	Remarks	minor
1.A			2	Free choice	
	202000845	Creating Biological Tissues	13	*BMT M5 (in Dutch);* Cell Biology / Bio Lab Work	x
1.B			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.A	202000857	Bioengineering Technologies	15	*BMT M11 (in Dutch)*	x
2.B	202000670	Bachelor Assignment	15	*AT M12*	

Track: Biorobotics

Block	code	name	EC	Remarks	minor
1.A	202200071	Biorobotics* **OR**	15	*BMT M9* - Overlap with M6c*	HM
1.B	*202001139*	*Systems & Control*		*AT M6c*	JM
	202001140	Control Engineering	5		
	202001141	Engineering System Dynamics	5		
	202001142	Project Systems & Control	5		
2.A			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

Track: Medical Device Design

Block	code	name	EC	Remarks	minor
1.A	202200071	Biorobotics* **OR**	15	*BMT M9* - Overlap with M6c*	HM
1.B	*202001139*	*Systems & Control*		*AT M6c*	JM
	202001140	Control Engineering	5		
	202001141	Engineering System Dynamics	5		
	202001142	Project Systems & Control	5		
2.A			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

IM: in-depth minor module
JM: Join-in Minor module
HM: High Tech/Human Touch Minor module

= Possible to take both, or to make a selection. *

* If you also want to take both Biorobotics and AT M6c Systems&Control, first take Systems&Control and then Biorobotics with the advanced variants of Control of Robotic Systems and Biomedical Signal Analysis.

Master: **Civil Engineering and Management** Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/cem/

Contact person Peter Jansen MSc

Procedure for admission

Somewhere around May/June of your 2nd year, please send an e-mail about your participation to Ms. Elora Luijkx, pre-master coordinator of the faculty Engineering Technology and Peter Jansen, programme coordinator CE/CEM/CME.

Track: **Construction**

Block	Code	Name	EC	Remarks	Minor
1.A	202000695	Engineering Solid Mechanics	4	Mandatory prior knowledge for Designing Constructions (2B)	
			11	Free choice	
1.B			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.A	202000670	Bachelor Assignment AT	15	*AT M12*	
2.B	*202000060*	*Designing Constructions * **OR***		*CE M4*	x
	202300123	Structural Mechanics 2	3		
	202000062	Introduction Project Disciplines	4,5		
	202000063	Project	4,5		
			3	Free choice	
1.B	*202100168*	*Sustainable Civil Engineering*		*CE M6*	x
	202100169	Design Strategy and Evaluation	3,5		
	202100170	Structural Mechanics 3	3,5		
	202100173	Energy	2		
	202100172	Social Sustainability	3		
	202100171	Environmental and Economic Sustainability	3		

Track: **Water**

Block	Code	Name	EC	Remarks	Minor
1.A	*202000064*	*Safety and risk in Deltas ***		*CE M5*	JM
	202000065	Soil Mechanics	2		
	202000066	Fluid Mechanics 2	2		
	202000067	Water Management	2,5		
	202000068	Project Flood Risk	6		
	202200069	Introduction to PiE using Python 2	0,5		
			2	Free choice	
1.B			15	Free choice	
2.A			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment AT	15	*AT M12*	

Track: **Traffic**

Block	Code	Name	EC	Remarks	Minor
1.A			15	Free choice	
1.B			15	Free choice	
2.A	*202000056*	*Traffic and Transport ****		*CE M3*	x
	202000057	Theory Traffic & Transport	5		
	202000058	Project Traffic & Transport	7		
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment AT	15	*AT M12*	

Track: **Integrated Civil Engineering Systems - Profile Sustainability and Resilience**

Block	Code	Name	EC	Remarks	Minor
1.A	*202000064*	*Safety and risk in Deltas ** **OR***		*CE M5*	JM
	202000065	Soil Mechanics	2		
	202000066	Fluid Mechanics 2	2		
	202000067	Water Management	2,5		
	202000068	Project Flood Risk	6		
	202200069	Introduction to PiE using Python 2	0,5		
			2	Free choice	
1.B	202000668	Preparation Bachelor Assignment AT	4		
			11	Free choice	
2.A	202000670	Bachelor Assignment AT	15	*AT M12*	
2.B	*202000060*	*Designing Constructions **		*CE M4*	x
	202300123	Structural Mechanics 2	3		
	202000062	Introduction Project Disciplines	4,5		
	202000063	Design of Constructions Project	4,5		
			3	Free choice	

Track: **Integrated Civil Engineering Systems - Profile Civil Engineering Structures**

Block	Code	Name	EC	Remarks	Minor
1.A			15	Free choice	
1.B	*202100168*	*Sustainable Civil Engineering **OR***		*CE M6*	x
	202100169	Design Strategy and Evaluation	3,5		
	202100170	Structural Mechanics 3	3,5		
	202100173	Energy	2		
	202100172	Social Sustainability	3		
	202100171	Environmental and Economic Sustainability	3		
2.A	*202000072*	*Area development*		*CE M7*	JM
	202000073	Practical GIS	2		
	202000074	Economic Assessment	2		
	202000075	Spatial Policy and Law	2		
	202000076	Stakeholder Analysis and Management	2		
	202000077	Project Area Development	7		
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment AT	15	*AT M12*	

* The Minor 'Designing Constructions' contains the course Calculus 2. This course should be replaced with a relevant 3 EC course. = Possible to take all, or to make a selection.

** The Minor 'Safety and Risk in Deltas' contains the course Vector Calculus. This course should be replaced with a relevant 2 EC course.

*** The Minor 'Traffic and Transport' contains the course Linear Algebra. This course should be replaced with a relevant 3 EC course.

Master: Construction Management and Engineering (4TU)

Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/cme/

Contact person Peter Jansen MSc

Procedure for admission

Somewhere around May/June of your 2nd year, please send an e-mail about your participation to Ms. Elora Luijkx, pre-master coordinator of the faculty Engineering Technology and Peter Jansen, programme coordinator CE/CEM/CME.

Block	Code	Name	EC	Remarks	Minor
1.A			15	Free choice	
1.B			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.A	202000670	Bachelor Assignment AT	15	*AT M12*	
2.B	*202000060*	*Designing Constructions * **OR***		*CE M4*	x
	202000061	Structural Mechanics	3		
	202000062	Introduction Project Disciplines	4,5		
	202000063	Project	4,5		
			3	Free choice	
1.B	*202100168*	*Sustainable Civil Engineering*		*CE M6*	x
	202100169	Design Strategy and Evaluation	3,5		
	202100170	Structural Mechanics 3	3,5		
	202100173	Energy	2		
	202100174	Social Sustainability	3		
	202100171	Environmental and Economic Sustainability	3		

* The Minor 'Designing Constructions' contains the course Calculus 2. This course should be replaced with a relevant 3 EC course.

= Possible to take both, or to make a selection.

Master: Computer Science

Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/csc/

Contact person Drs. M. van Grinsven

Procedure for admission

At the end of the third year, please contact the programme coordinator Ms. M. van Grinsven for admission to the master's programme.

Track: Cyber Security / Internet Science and Technology

Block	code	name	EC	Remarks	minor
1.A	*202200165*	*Computer Systems for CS **		*CS M5*	JM/HM/IM
	202200166	Operating Systems	6		
	202200167	Computer Architecture & Organization	5		
	202200168	IT & Law	1		
	202001234	Discrete Mathematics	3		
1.B	202300186	Software Systems Core * ; **	12	*Part of CS M2*	JM
	202001182	Algorithms, Data structures, Complexity **OR**	5	Optional; recommended replacement for Caculus 1B	
	201400385	Introduction to Mathematical Analysis	3	Optional; possible replacement for Caculus 1B	
2.A	*202001150*	*Network Systems for EE **		*EE M7*	JM/HM/IM
	202001151	Network Systems core	12		
	202001152	Programming 2	3		
	202000668	Preparation Bachelor Assignment AT	4	year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

Track: Data Science & Technology; Software Technology

Block	code	name	EC	Remarks	minor
1.A	*202200165*	*Computer Systems for CS **		*CS M5*	JM/HM/IM
	202200166	Operating Systems	6		
	202200167	Computer Architecture & Organization	5		
	202200168	IT & Law	1		
	202001234	Discrete Mathematics	3		
1.B	202300186	Software Systems Core * ; **	12	*Part of CS M2*	JM
	202001182	Algorithms, Data structures, Complexity **OR**	5	Optional; recommended replacement for Caculus 1B	
	201400385	Introduction to Mathematical Analysis	3	Optional; possible replacement for Caculus 1B	
2.A	*202001359*	*Discrete Structures and Efficient Algorithms **		*CS M7*	JM/HM/IM
	202001360	Algorithmic Discrete Mathematics	5		
	202001361	Languages & Machines	3,5		
	202001363	Implementation Project on Graph Isomorphism	3,5		
	202000668	Preparation Bachelor Assignment AT	4	year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

IM: in-depth minor module
JM: Join-in Minor module
HM: High Tech/Human Touch Minor module

= Possible to take all, or to make a selection. *

= Pick one out of two.

* Any combination of 2 (out of possible 4) modules is enough for admission into the Master CS, see www.utwente.nl/en/csc/premaster/transfer-ut-bachelor/. Both modules need to be completed as a whole (or 12EC, CS2) in order to be eligible for admission.

** The Module 'Software Systems' contains the course Calculus 1B. This course should be replaced with a relevant 3 EC course (examples given in matrix).

Note! Most modules have limited availability and are not open to registration for students outside (CS, EE, AM). Make sure to register on time through www.utwente.nl/minor

Master: Chemical Science & Engineering

Admission requirements 2023/2024

Webpage https://www.utwente.nl/cse

Contact person Charlotte Diepenmaat
Leonie Krab

Procedure for admission

At the end of the second year, contact the bachelor's coordinator of CSE (bachelor-cse@utwente.nl) about participation CSE module 7.
Please contact Charlotte Diepenmaat for an introductory meeting before the start of the master's (around the end of your third year).

Track: Chemical and Process Engineering

Block	code	name	EC	Remarks	Minor
(B2) 1.B	*202000633*	*Materials Science and Engineering*		*AT M6a*	JM
	202000634	Advanced Materials	3,5		
	202000635	Fundamentals of Solids	3,5		
	202000636	Chemistry and Technology of Materials	4		
		elective 1 of 2			
	202000637	Semiconductor Devices	4		
	202000638	Physical Chemistry of Interfaces *	4		
1.A	201800102	Basics for Process Simulation	5	Course as preparation for CSE M8	
		Optional			
	202000733	*Industrial Processes **		*CSE M5*	
	202000734	Kinetics & Catalysis	4,5		
	202000735	Ind. Chem. Proc. & Proj. Sust. Ind. Chem	8,5		
1.B	*202000736*	*Transport Phenomena*		*AT M6b*	JM
	202000737	Physical Transport Phenomena	7,5		
	202000738	Project Transport Phenomena	4		
	202000739	Numerical Methods	3,5		
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.A	202000670	Bachelor Assignment	15	*AT M12*	
2.B	*202000744*	*Process Design*		*CSE M8a*	
	202000745	Intr. Chemical Reactor Engineering	4		
	202000746	Intr. Seperation Methods	4		
	202000747	Project Process Design	7		

Track: Molecular and Materials Engineering & Materials Science and Engineering

Please note that if you want to go into the MME direction, you need to take CSE module 7. As this module contains a lab part, you need to contact the CSE programme coordinator (bachelor-cse@utwente.nl) in the first quarter to inform if any lab places are available.

Block	code	name	EC	Remarks	Minor
1.A			15	Free Choice	
(B2) 1.B	*202000633*	*Materials Science and Engineering*		*AT M6a*	JM
	202000634	Advanced Materials	3.5		
	202000635	Fundamentals of Solids	3.5		
	202000636	Chemistry and Technology of Materials	4		
		Elective 1 of 2			
	202000637	Semiconductor Devices	4		
	202000638	Physical Chemistry of Interfaces **	4		
2.A	*202000740*	*Molecules and Materials*		*CSE M7* (ask the programme coordinator about the available places)	x
	202100249	Organic & Bio-organic Chemistry	8		
	202100250	Characterization of Molecules & Materials Science	4		
	202300163	Interface Science **	3		
	202000668	Preparation Bachelor Assignment AT	4	Year	
B3 2.B	202000670	Bachelor Assignment	15	Module AT12	

IM: in-depth minor module
JM: Join-in Minor module
HM: High Tech/Human Touch Minor module

= Pick one out of two. *; **

= Optional

* There is overlap in content between 2020000638 Physical Chemistry of Interfaces and 202000733 Industrial Processes. Combination is not allowed.

** There is overlap in content between 202000638 Physical Chemistry of Interfaces and 202300163 Interface Science. Choose either Interface Science or Physical Chemistry of Interfaces.

Master: **Electrictical Engineering**

Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/mee/

Contact person Shaokang Zhang PhD

Specialisations: Nano Electronics (NE)
Micro Sensors and Systems (IDS)
Integrated Devices and Systems (IDS)
Integrated Optical Systems (IOS)

Block	code	name	EC	Remarks	minor
(B2) 1.A	202000630	Programming in Engineering	4	Alternative: 191158510 PiE in 1.B	
	202000644	Electronics	4		
1.A	*202001135*	*Computer Systems for EE (without Continuous Linear Systems)*		*EE M5*	JM
	202001136	Computer Architecture and Organisation	4		
	202001137	Digital Hardware	6		
			5	Free choice	
1.B			15	Free choice	
2.A	*202001143*	*Device Physics (without Single Electron Transistor)*		*EE M7A*	JM/HM
	202001145	Semiconductor Physics	3		
	202001146	Semiconductor Devices	3		
	202001147	Transduction & Mechanical Devices	3		
	202001148	Optical Devices	1,5		
	202001149	Project M7A	3		
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

Specialisations: Radio Systems (RS)
Integrated Circuit Design (ICD)
Dependable Integrated Systems (CAES)
Computer Vision and Biometrics (DMB)

Block	code	name	EC	Remarks	minor
(B2) 1.A	202000630	Programming in Engineering	4	Alternative: 191158510 PiE in 1.B	
	202000644	Electronics	4		
1.A	*202001135*	*Computer Systems for EE (without Continuous Linear Systems)*		*EE M5*	JM
	202001136	Computer Architecture and Organisation	4		
	202001137	Digital Hardware	6		
			5	Free choice	
1.B			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.A	202000670	Bachelor Assignment	15	*AT M12*	
2.B	*202001153*	*Signal Processing and Communications (without Probability Theory for*		*EE M8*	JM/HM
	202001154	Communication Systems	6		
	202001155	Digital Signal Processing	5		
			4	Free choice	

Specialisations: Biomedical Signals & Systems (BSS)
Power Electronic & EMC (PE)

Block	code	name	EC	Remarks	minor
(B2) 1.A	202000630	Programming in Engineering	4	Alternative: 191158510 PiE in 2.A	
	202000644	Electronics	4		
1.A	*202001135*	*Computer Systems for EE (without Continuous Linear Systems)*		*EE M5*	JM
	202001136	Computer Architecture and Organisation	4		
	202001137	Digital Hardware	6		
			5	Free choice	
1.B	*202001139*	*Systems & Control **		*AT M6c*	JM
	202001140	Control Engineering	5		
	202001141	Engineering System Dynamics	5		
	202001142	Project Systems & Control	5		
2.A			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

Specialisations: Communication Networks (DACS)

Block	code	name	EC	Remarks	minor
(B2) 1.A	202000630	Programming in Engineering	4	Alternative: 191158510 PiE in 1.B	
	202000644	Electronics	4		
1.A	*202001135*	*Computer Systems for EE (without Continuous Linear Systems)*		*EE M5*	JM
	202001136	Computer Architecture and Organisation	4		
	202001137	Digital Hardware	6		
			5	Free choice	
1.B			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.A	*202001150*	*Network Systems for EE*		*EE M7*	JM/HM
	202001151	Network Systems core	12		
	202001152	Programming 2	3		
2.B	202000670	Bachelor Assignment	15	*AT M12*	

* If you also want to take both AT M6c Systems&Control and Biorobotics, you must take Systems&Control first and then Biorobotics with the advanced variants of Control of Robotic Systems and Biomedical Signal Analysis.

IM: in-depth minor module
JM: Join-in Minor module
HM: High Tech/Human Touch Minor module

Master: Embedded Systems

Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/emsys/

Contact person Shaokang Zhang PhD

Procedure for admission

You can contact Shaokang Zhang if you have any questions about the admission requirements.

Block	code	name	EC	Remarks	minor
(B2) 1.A	202000630	Programming in Engineering	4	Alternative: 191158510 PiE in 2.A	
1.A	202200165	Computer Systems for CS		*CS M5*	JM
	202200166	Operating Systems	6		
	202200167	Computer Architecture & Organization	5		
	202200168	IT & Law	1		
	202001234	Discrete Mathematics	3		
	202001135	*Computer Systems for EE (without Continuous Linear Systems)*		*EE M5*	
	202001136	Computer Architecture and Organisation	4		JM
	202001137	Digital Hardware	6		
			5	Free choice	
1.B	*202300110*	*Cyber-Physical Systems*	*15*	*CS M10*	IM
2.A	*202001150*	*Network Systems * (with C++)*		*Optional. EE M7*	JM
	202001151	Network Systems Core	12		
	202001152	Programming 2	3		
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	Module AT12	

* There is overlap in content between 2020011550 Network Systems and either course in Programming in Engineering. Combination is not allowed.

= Pick one out of two.

= Optional

IM: in-depth minor module
JM: Join-in Minor module
HM: High Tech/Human Touch Minor module

Master: Industrial Design Engineering

Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/ide/

Contact person e.c.m.luijkx@utwente.nl
premastercoordinator-et@utwente.nl

Procedure for admission

Please, send an e-mail to premastercoordinator-et@utwente.nl before the 1st of July in order to be granted admission to these courses.

Block	code	name	EC	Remarks	minor
1.A	202000178	Introduction Industrial Design Engineering	1		-
	202000161	Technical Product Definition	2		
	202000175	Design Sketching 1	2,5		
	202000200	Physical Ergonomics	2,5		
	202000201	Project Human-Product Relations	7,5		
1.B	202000180	Construction	2,5		-
	202000181	Production 1	2,5		
	202000204	Graphic Design	2,5		
	202000206	Project Consumer Products	8		
2.A			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

Master: Industrial Engineering and Management

Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/iem/

Contact person M.G. van der Meulen

Procedure for admission

Please send Ms. M.G. van der Meulen, programme coordinator of IEM, an email that includes a motivation letter about the specialization of your choice and a up to date transcript of records.

Note

Please note that these courses are pre-master courses. The pre-master has to be completed successfully within one academic year (with no more than 2 exams per course) to be admitted to the master's programme. Not meeting these prerequisites means that you don't have access to the master IEM.

Track: Financial Engineering

Block	code	name	EC	Remarks	minor
1.A	202000454	Financial Engineering for premaster IEM	10		
	202001176	Statistics & probability for premaster IEM	5		
1.B			15	Free choice	
2.A			15	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

Track: Production and Logistics Management
Health Care Technology and Management

Block	code	name	EC	Remarks	minor
1.A	202000450	OR Models for the premaster IEM	10		
	202001176	Statistics & probability for premaster IEM	5		
1.B			15	Free choice	
2.A			15	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

Master: Interaction Technology

Admission requirements 2023/2024

Webpage	https://www.utwente.nl/en/itech/
Contact person	Master Coordinator I-Tech
	https://www.utwente.nl/en/itech/organization/

Procedure for admission

Please contact the master coordinator of I-Tech (around March) so the programme knows you want to participate.

Block	code	name	EC	Remarks	minor
1.A	202001022	Pearls of Computer Science Core	11		JM
	201500533 *	Python Programming (self-study)	5	PM I-Tech (assess relevance with study advisor **)	
1.B	*202001031*	*Intelligent Interaction Design Module*		*CS M6*	JM
	202200145	Artificial Intelligence and Cyber Security	6		
	202200146	Human-Computer Interaction Design and Evaluation	6		
	202001033	Statistical Techniques for TCS/BIT	3		
2.A			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

* Registration through BOZ I-Tech: boz-itech@utwente.nl

** Python Programming is only relevant in the case of insufficient programming skills. Both Java and Python are accepted languages. M6d

IM: in-depth minor module
JM: Join-in Minor module
HM: High Tech/Human Touch Minor module

Master: Mechanical Engineering

Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/me/

Contact person premastercoordinator-et@utwente.nl

Procedure for admission

If there are any questions or unclarities relating to the master ME, please contact Elora Luijx, pre-master coordinator of the faculty Engineering Technology. Questions concerning the prerequisites can be addressed to your study advisor.

Option 1 (if you did M6a Materials Science and Engineering or M6d Software Systems in your 2nd year)

Block	code	name	EC	Remarks	minor
(B2) 1.A	202000695	Engineering Solid Mechanics *	4		
1.A	202200071	BioRobotics **	15	*BME M9* - Overlap with M6c **	HM
1.B	202000158	Aeronautical Engineering: Aircraft Engineering	15		HM
2.A	202000149	Introduction Finite Elements - PB	3,5		
	202000138	Fluid Mechanics 1 - PB	3,5		
	202000139	Heat Transfer - PB	3,5		
	202000668	Preparation Bachelor Assignment AT	4	Year	
	202000243	Introduction Mechanical Engineering - PB	5	Mandatory in either B or M	
2.B	202000670	Bachelor Assignment	15	*AT M12*	
	202000143	Dynamics 2 - PB	4,5		

Option 2 (if you did M6b Transport Phenomena in your 2nd year)

Block	code	name	EC	Remarks	minor
(B2) 1.A	202000695	Engineering Solid Mechanics *	4		
1.A	202200071	BioRobotics **	15	*BME M9* - Overlap with M6c **	HM
1.B	202000158	Aeronautical Engineering: Aircraft Engineering	15		HM
2.A	202000149	Introduction Finite Elements - PB	3,5		
	202000243	Introduction Mechanical Engineering - PB	5		
	202000668	Preparation Bachelor Assignment AT	4	Year	
			2,5	Free choice	
2.B	202000670	Bachelor Assignment	15	*AT M12*	
	202000143	Dynamics 2 - PB	4,5		

Option 3 (if you did M6c Systems and Control in your 2nd year)

Block	code	name	EC	Remarks	minor
(B2) 1.A	202000695	Engineering Solid Mechanics *	4		
1.A			15	Free choice	
1.B	202000158	Aeronautical Engineering: Aircraft Engineering	15		HM
2.A	202000149	Introduction Finite Elements - PB	3,5		
	202000138	Fluid Mechanics 1 - PB	3,5		
	202000139	Heat Transfer - PB	3,5		
	202000668	Preparation Bachelor Assignment AT	4	Year	
	202000243	Introduction Mechanical Engineering - PB	5	Mandatory in either B or M	
2.B	202000670	Bachelor Assignment	15	*AT M12*	
	202000143	Dynamics 2 - PB	4,5		

* 202000695 Engineering Solid Mechanics can be replaced with 2020001410 Mechanics of Materials in 2.B (3 EC).

** If you also want to take both Biorobotics and AT M6c Systems&Control, first take Systems&Control and then Biorobotics with the advanced variants of Control of Robotic Systems and Biomedical Signal Analysis.

note

AT - M6b CSE module 6 Transport Phenomena is equivalent to Fluid Mechanics 1 and Heat Transfer in Block 2A

AT - M6c Systems and Control - AT is equivalent to Biorobotics in block 1A

IM: in-depth minor module

JM: Join-in Minor module

HM: High Tech/Human Touch Minor module

= Optional

Master: Nano Technology

Admission requirements 2023/2024

Webpage https://www.utwente.nl/nt/

Contact person Bram Schouwstra BA
Florien Lukkien MA

Procedure for admission

Please contact Florien Lukkien for an introductory meeting before the start of the master's (around the end of your third year).

Block	code	name	EC	Remarks	minor
(B2) 1.B	*202000633*	*Materials Science and Engineering*		*AT M6a* / Possible alternative: CSE M8b (202000748 Materials Science & Technology)	JM
	202000634	Advanced Materials	3.5		
	202000635	Fundamentals of Solids	3.5		
	202000636	Chemistry and Technology of Materials	4		
		elective 1 of 2			
	202000637	Semiconductor Devices	4		
	202000638	Physical Chemistry of Interfaces	4		
1.A	*202000659*	*Condensed Matter Physics*		*AT M9*	IM
	202000660	Introduction Solid State Physics	5		
	202000661	Statistical Physics	5		
	202000662	Optics	2.5		
	202000663	Molecular Structure and Spectroscopy	2.5		
	202200253	FEM Theory and COMSOL Simulations for micro- & nanodevices	5		
1.B	201600046	Lab on a Chip	15		IM
2.A	191211300	Micro Electro- Mechanical Systems Design	5	Master's elective course. High entry level	
	202000666	Transducers	3		
			3	Free choice	
	202000668	Preparation Bachelor Assignment AT	4		
2.B	202000670	Bachelor Assignment	15	*AT M12*	

IM: in-depth minor module
JM: Join-in Minor module
HM: High Tech/Human Touch Minor module

= Optional

= Pick one out of two.

Master: Robotics

Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/education/master/programmes/robotics/

Contact person Dr. Heidi Muijzer-Witteveen
Dr. Ir. Jan Broenink

Mechatronics and Physical AI (MPAI) specialization - recommended courses

Block	code	name	EC	Remarks	
(B2 1.A)	202000630	Programming in Engineering AT	4		
1.A	202200071	Biorobotics* **OR**	15	Overlap with M6c*	HM
1.B	*202001139*	*Systems & Control*		*AT M6c*	JM
	202001141	Engineering System Dynamics	5		
	202001140	Control Engineering	5		
	202001142	Project Systems & Control	5		
2.A	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

Algorithms and Software AI (ASAI) specialization - recommended courses

Block	code	name	EC	Remarks	
(B2 1.A)	202000630	Programming in Engineering AT	4		
1.A	202200071	Biorobotics* **OR**	15	Overlap with M6c*	HM
1.B	*202001139*	*Systems & Control*		*AT M6c*	JM
	202001141	Engineering System Dynamics	5		
	202001140	Control Engineering	5		
	202001142	Project Systems & Control	5		
1.B	202001043	Cyber Physical Systems	15	*CS M10*	HM
2.A	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

Human-Robot Interaction and Social AI (HRISAI) specialization - recommended courses

Block	code	name	EC	Remarks	
(B2 1.A)	202000630	Programming in Engineering AT	4		
1.A	202200071	Biorobotics* **OR**	15	Overlap with M6c*	HM
1.B	*202001139*	*Systems & Control*		*AT M6c*	JM
	202001141	Engineering System Dynamics	5		
	202001140	Control Engineering	5		
	202001142	Project Systems & Control	5		
1.B	*202001031*	*Intelligent Interaction Design* **		*CS M6*	JM
	202200145	Artificial Intelligence and Cyber Security	6		
	202200146	Human-Computer Interaction Design and Ev	6		
	202001033	Statistical Techniques for TCS/BIT	3		
2.A	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

IM: in-depth minor module
JM: Join-in Minor module
HM: High Tech/Human Touch Minor module

= Possible to take both, or to make a selection. *

= Optional

* If you also want to take both Biorobotics and AT M6c Systems&Control, first take Systems&Control and then Biorobotics with the advanced variants of Control of Robotic Systems and Biomedical Signal Analysis.
** There is overlap in content between 2020000979 Smart Technology and 202001031 Intelligent Interaction Design. Combination is not allowed.

Master: Spatial Engineering

Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/education/master/programmes/spatial-engineering/

Contact person Drs. T.R. Luiten MBA

Procedure for admission

Since there is no fixed programme that determines your admission to the programme, you can contact Ms. T.R. Luiten if you are interested in the Spatial Engineering master's programme.

To allow students to meet the final qualifications of the Spatial Engineering programme it is necessary that incoming students have knowledge at bachelors level of a research university in at least three of the following topics:

- Water, weather and climate (hydrology, meteorology)
- Earth sciences (geo-engineering, geology, earth surface processes)
- Civil engineering (infrastructure, building, hydraulics, hard interventions)
- Spatial planning and governance (urban and or rural environments)
- Spatial information and visualization (GIS, Remote Sensing)
- Software engineering

Block	code	name	EC	Remarks	Minor
1.A	201500060	Geographic Information Systems	15	Recommended*	HM
1.B	202200306	Adapting to climate change with Spatial Engineering	15	Recommended*	IM
	201500062	Earth Observation	15	Recommended*	HM
2.A			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment AT	15	*AT M12*	

*These modules provide knowledge in the fields mentioned above, providing the most direct access to the Master.

= Optional

IM: in-depth minor module
JM: Join-in Minor module
HM: High Tech/Human Touch Minor module

Master: Sustainable Energy Technology

Admission requirements 2023/2024

Webpage https://www.utwente.nl/en/set/

Contact person K.G.M. Braakhuis

Procedure for admission

There is no specific procedure for admission. You can just enrol for the master's programme.

There is not a strict set of modules or courses required to be admissable for the SET master's programme.
This overview shows the recommended courses preferred by the AT programme.

Block	code	name	EC	Remarks	minor
1.A	202100067	Energy Transition Perspectives	15		IM
	202300020	Energy Transition Challenges **OR**	15		IM
	202000736	*Physical Transport **		*CSE M6 / AT M6b*	JM
1.B	202000737	Physical Transport Phenomena	7,5		
	202000738	Project Transport Phenomena	4		
	202000739	Numerical Methods	3,5		
	202000137	*Fluid Mechanics and Heat Transfer **		*ME M7*	JM
	202000138	Fluid Mechanics 1	3,5		
2.A	202000139	Heat Transfer	3,5		
	202000140	Project Fluids Engineering & Ac. Skills 7	8		
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

The overview below contains alternative modules and courses that can be taken as a good preparation for the SET master's programme.
For minor: please enroll for the minor, you don't have to enroll for the corresponding module!

Block	code	name	EC	Remarks	minor
	202200071	BioRobotics **	15	Overlap with M6c **	HM
1.A	202000230	From Science to Society: From Idea to Prototype	15	Energy theme	HM
	202001438	Innovations in Sustainable Chain Management: Analysis	15		HM
	202000158	Aircraft Engineering	15		HM
	202000099	Smart ways to make SMART cities SMARTER	15		HM
1.B	202000168	Materials for the design of the future	15	Possible overlap with Physical Chemistry of Interfaces (Materials Science and Engineering module, Module AT6a)	HM
	202000234	From Science to Society: From Prototype to Society	15	Energy theme	HM
	202001418	Innovations in Sustainable Chain Management: Design	15	Energy track	HM
2.A			11	Free choice	
	202000668	Preparation Bachelor Assignment AT	4	Year	
2.B	202000670	Bachelor Assignment	15	*AT M12*	

* There is overlap in content between 202000736 Physical Transport and 202000137 Fluid Mechanics and Heat Transfer. Combination is not allowed.
** If you also want to take both Biorobotics and AT M6c Systems&Control, first take Systems&Control and then Biorobotics with the advanced variants of Control of Robotic Systems and Biomedical Signal Analysis.

IM: in-depth minor module
JM: Join-in Minor module
HM: High Tech/Human Touch Minor module

= Pick one out of two / optional

= Optional (except PBA & BA)