

# TU Delft English courses available to incoming exchange students

## 2017 - 2018

The following document contains the courses available to exchange students. The document serves only as an indication, no rights can be derived from this list. This list is subject to change without notice. The most recent course information can be found at **[www.studyguide.tudelft.nl](http://www.studyguide.tudelft.nl)**. In the case of conflicting information, the study guide is leading.

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### Course selection guidelines

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At the TU Delft the academic year has been divided into four periods. Periods 1 and 2 correspond to the fall semester, periods 3 and 4 correspond to the spring semester. You must take the majority of your courses at the faculty of your exchange. The minimum course load is 24 ECTS for a semester or 48 ECTS for a full year. A typical course load is 30 ECTS per semester or 60 ECTS for a full year. Divide the selected credits evenly over the 2 or 4 periods of your exchange.

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### Minor

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A minor is a well-rounded package of courses on one main topic. In the first semester of the 3rd year all TU Delft BSc students choose a Minor. BSc students who come to TU Delft in the Autumn semester during their BSc phase or third year of their studies can choose a minor package. The advantage is that they will not encounter scheduling problems and will work together with other (Dutch) students in a group. Some of the courses in the minor programmes can be taken separately.

English BSc and MSc courses available for exchange students				
Faculty of Aerospace Engineering				
Course Code	Course Name	Cat.	EC	Period
<b>Propaedeutic (1st Year)</b>				
AE1108-I	Aerospace Materials	BSc	3	0/4/0/0
AE1108-II	Aerospace Mechanics of materials	BSc	3	0/0/6/0
AE1110-I	Introduction to Aerospace Engineering I	BSc	5	8/0/0/0
AE1110-II	Introduction to Aerospace Engineering II	BSc	4	0/6/0/0
AE1130-I	Statics	BSc	4	8/0/0/0
AE1130-II	Dynamics	BSc	3	0/6/0/0
AE1205	Programming and Scientific Computing in Python for Aerospace	BSc	2	0/0/0/8
AE1222-II	Aerospace Design and Systems Engineering Elements <i>**Please inform us at exchange-ae@tudelft.nl if you are taking this course**</i>	BSc	4	0/0/2/2
AE1111-II	Engineering Drawing	BSc	2	4/4/0/0
AE1240-I	Thermodynamics	BSc	3	0/0/4/0
AE1240-II	Waves and electromagnetism	BSc	3	0/0/0/4
WI1402LR	Calculus II	BSc	5	0/0/6/0
WI1403LR	Linear Algebra	BSc	5	0/0/0/6
WI1421LR	Calculus I	BSc	6	4/4/0/0
WI1402LR	Calculus II	BSc	5	0/0/6/0
<b>Head Phase 2nd Year</b>				
AE2111-II	Aerospace Design and Systems Engineering Elements	BSc	3	4/0/0/0
AE2130-I	Aerodynamica I	BSc	3	4/0/0/0
AE2130-III	Aerodynamics II	BSc	3	0/4/0/0
AE2135-I	Structural Analysis and Design	BSc	5	0/4/0/0
AE2135-II	Vibrations	BSc	3	0/4/0/0
AE2220-I	Applied Numerical Analysis	BSc	3	0/0/4/0
AE2220-II	Computational Modeling	BSc	3	0/0/0/4
AE2223-II	Experimental Research and Data Analysis	BSc	3	0/0/4/0
AE2230-I	Flight and Orbital Mechanics	BSc	4	0/0/4/0
AE2230-II	Propulsion and Power	BSc	4	0/0/4/0
AE2235-I	Aerospace Systems and Control Theory	BSc	4	0/0/0/2
AE2235-II	Instrumentation and Signals	BSc	3	0/0/0/4
WI2180LR-I	Differential Equations	BSc	4	6/0/0/0
WI2180LR-II	Probability and Statistics	BSc	4	6/0/0/0
<b>3rd Year Major</b>				
AE3211-I	Systems Engineering & Aerospace Design	Bsc	3	0/0/4/0
AE3211-II	Production of Aerospace Systems	BSc	3	0/0/4/0
AE3212-I	Aerospace Flight Dynamics and Simulation Incl. Test Flight	Bsc	5	0/0/6/0
<b>Minor Airport of the Future – Please contact exchange-ae@tudelft.nl if you wish to take any of these</b>				
AE3501-14	Air Transportation	BSc Minor	4	4/0/0/0
AE3502-14	Airport Planning, Design and Operation	BSc Minor	4	4/0/0/0
AE3503	Strategic Planning for Airport Systems	BSc Minor	6	0/4/0/0
CT3080LR	Landside accessibility of Airports	BSc Minor	6	4/0/0/0
EE3340TU	Microwave Sensors and Radars for Airport Applications	BSc Minor	4	0/4/0/0
IO3818	Designing an Airport	BSc Minor	6	0/x/0/0
<b>Minor Spaceflight– Only possible to take the whole minor, limited places available, please contact exchange-ae@tudelft.nl</b>				
AE3530	Introduction to Spaceflight	BSc Minor	3	2/0/0/0
ET3604LR	Electronic Circuits	BSc Minor	3	4/0/0/0
AE3531	Space Exploration	BSc Minor	7	8/0/0/0
AE3534	Spacecraft Technology	BSc Minor	5	0/4/0/0
AE3535-16	Satellite Tracking and Communication	BSc Minor	4	2/2/0/0
AE3537	Spaceflight Assignment	BSc Minor	7	0/8/0/0
CT3532	Earth Observation	BSc Minor	4	2/0/0/0

**M.Sc. Aerospace Engineering - Electives**

Code	Course Name	Cat.	EC	Period
<b>MSc / graduate Courses</b>				
AE3W02TU	Introduction to Wind Energy	MSc	4	0/2/0/0
AE4115	Experimental simulations	MSc	3	0/0/2/2
AE4117	Fluid-Structure interaction	MSc	4	0/0/2/0
AE4120	Viscous flows	MSc	3	0/4/0/0
AE4130	Aircraft aerodynamics	MSc	3	2/2/0/0
AE4135	Rotor/wake aerodynamics	MSc	4	0/0/2/2
AE4136	CFD 2: Discretization techniques	MSc	2	0/2/0/0
AE4137	CFD 3: Large Eddy Simulation	MSc	2	0/0/4/0
AE4138	CFD 4: Special topics	MSc	2	0/0/0/2
AE4140	Gas dynamics I	MSc	3	4/0/0/0
AE4143	Hypersonic aerodynamics	MSc	3	0/2/2/0
AE4180	Flow measurement techniques	MSc	3	0/0/2/2
AE4202	CFD for aerospace engineers	MSc	3	4/0/0/0
AE4203	Gas turbine simulation / application	MSc	3	0/0/2/2
AE4204	Knowledge Based Engineering	MSc	4	0/0/4/0
AE4205	MDO for aerospace applications	MSc	4	4/0/0/0
AE4206	Turbomachinery	MSc	3	0/0/4/0
AE4238	Aero Engine Technology	MSc	4	2/2/0/0
AE4240	Advanced aircraft design I	MSc	4	6/0/0/0
AE4245	Advanced aircraft design II	MSc	4	0/0/6/0
AE4260	Experimental Aeroacoustics (track 1 elective)	MSc	4	4/0/0/0
AE4261	Internal Flows (track 5)	MSc	3	0/x/0/0
AE4262	Combustion for propulsion and power technologies (track 5)	MSc	4	0/0/x/0
AE4263	Modeling, Simulation and Applications of P&P Systems (track 5)	MSc	5	0/0/x/0
AE4264	Measurements and Diagnostics in Reacting Flows (track 5 elective)	MSc	3	0/0/x/0
AE4265	Space embedded Systems (track 3 elective)	MSc	3	0/0/x/x
AE4266	Propagation and Optimization in Astrodynamics (track 3 elective)	MSc	4	0/0/x/0
AE4267	Numerical Astrodynamics (track 3 elective)	MSc	2	0/x/0/0
AE4268	Capita Selecta	MSc	4	0/0/0/x
AE4269	Space-Plane Conceptual Design (track 3 elective)	MSc	4	///
AE4270	Control and Operations Project (track 2 elective)	MSc	4	///
AE4301	Automatic Flight Control Systems Design	MSc	3	4/0/0/0
AE4301P	Exercise Automatic Flight Control System Design	MSc	1	0/x/0/0
AE4302	Avionics and operations	MSc	3	4/0/0/0
AE4304	Stochastic Aerospace Systems	MSc	3	0/4/0/0
AE4304P	Stochastic Aerospace Systems Practical	MSc	1	0/0/x/0
AE4311	Advanced flight control	MSc	4	0/0/0/4
AE4313	Spacecraft attitude Dynamics and control	MSc	3	0/0/4/0
AE4313P	Spacecraft Attitude Dynamics & Control Exercise	MSc	1	0/0/x/0
AE4314	Rotorcraft Mechanics and Design	MSc	3	0/0/0/4
AE4314P	Rotorcraft Mechanics & Design Practical	MSc	1	0/0/0/x
AE4315	Advanced Dynamics	MSc	3	0/0/0/2
AE4316	Aerospace Human-Machine Systems	MSc	4	0/4/0/0
AE4317	Autonomous Flight of Micro Air Vehicles	MSc	4	0/0/4/0
AE4318	Supervisory Control and Cognitive Systems	MSc	2	0/0/4/0
AE4319	Manual Control Cybernetics	MSc	2	0/0/0/4
AE4320	System Identification of Aerospace Vehicles	MSc	4	0/0/4/0
AE4321-15	Air traffic management	MSc	4	0/2/2/0
AE4322	Piloted Flight Simulation	MSc	4	0/0/4/0
AE4323	Real-time Distributed Flight and Space Simulation	MSc	3	0/0/0/2
AE4422-16	Agent-based modelling and simulation in Air Transport	MSc	4	0/0/4/0
AE4423	Airline Planning & Optimization	MSc	4	0/4/0/0
AE4424	Network Scheduling	MSc	3	0/0/2/0
AE4431	Aircraft noise and emissions	MSc	3	0/4/0/0
AE4441-16	Operations optimisation	MSc	4	4/0/0/0
AE4446	Airport Operations	MSc	4	0/0/4/0

# Aerospace Engineering

AE4447	Aircraft Performance Optimization	MSc	3	0/4/0/0
AE4447p	Aircraft Performance Optimization practical	MSc		0/0/x/0
AE4448	Agent-based safety risk analysis	MSc	4	0/2/2/0
AE4454-16	Life Cycle Analysis and Production	MSc	3	0/0/2/0
AE4462-17	Aircraft Emissions and Climate Effects	MSc	4	0/0/4/0
AE4463-17	Advanced Aircraft Noise Modeling and Measurement	MSc	4	0/0/4/0
AE4465	Maintenance Modeling & Analysis	MSc	4	4/0/0/0
AE4466	Monte Carlo simulation of stochastic processes II	MSc	3	0/2/0/0
AE4467	Numerical Methods for Aircraft Performance Analysis	MSc	3	///
AE4468	Airline maintenance operations	MSc	3	0/0/2/0
AE4499	Space Project	MSc		///
AE4870A	Rocket Motion	MSc	3	4/0/0/0
AE4870B	Re-entry Systems	MSc	3	4/0/0/0
AE4872	Satellite Orbit Determination	MSc	6	4/2/0/0
AE4874-I	Astrodynamics I	MSc	4	4/0/0/0
AE4874-II	Astrodynamics II	MSc	4	0/0/4/0
AE4876-11	Planetary Sciences II	MSc	4	0/0/6/0
AE4878	Mission Geometry and Orbit Design	MSc	4	0/2/2/0
AE4880	Space instrumentation	MSc	4	0/0/4/0
AE4890-11	Planetary sciences I	MSc	4	0/6/0/0
AE4ASM001	Design of lightweight structures I: Composites & Metals	MSc	3	4/0/0/0
AE4ASM002	Designing Materials with Aerospace Specific Properties	MSc	3	2/0/0/0
AE4ASM004	Manufacturing of Aerospace Structures & Materials	MSc	3	4/0/0/0
AE4ASM005	Fatigue of Structures & Materials	MSc	3	4/0/0/0
AE4ASM101TU	Polymer Science	MSc	5	0/2/0/0
AE4ASM102	Advanced Alloys	MSc	3	0/2/0/0
AE4ASM103	Functional Coatings	MSc	3	0/0/0/2
AE4ASM104	Sensor Materials	MSc	3	0/0/2/0
AE4ASM106	Stability & Analysis of Structures I	MSc	3	0/4/0/0
AE4ASM107	Joining Methods	MSc	3	0/4/0/0
AE4ASM108	Experimental Techniques & NDT	MSc	3	0/4/0/0
AE4ASM109	Design & Analysis of Composite Structures I	MSc	5	0/0/4/0
AE4ASM501	Design of Lightweight Structures II	MSc	3	0/0/4/0
AE4ASM503	Sheet Metal Forming	MSc	3	0/0/4/0
AE4ASM504	Structural Integrity and Maintenance	MSc	3	0/0/4/0
AE4ASM506	Aeroelasticity	MSc	3	0/0/4/0
AE4ASM507	Adaptive Aerospace Structures	MSc	3	0/0/2/0
AE4ASM508	Design of Self-healing materials	MSc	3	0/0/0/4
AE4ASM510	Design & Analysis of Composite Structures II	MSc	3	0/0/0/4
AE4ASM511	Stability & Analysis of Structures II	MSc	3	0/0/4/0
AE4ASM514TU	Continuum Mechanics	MSc	4	0/0/4/0
AE4ASM515	Materials Characterization	MSc	3	0/0/0/2
AE4ASM516	Material Selection for Mechanical Design	MSc	3	0/0/2/0
AE4ASM518	Flow measurement techniques	MSc	3	0/0/2/2
AE4S01	Thermal rocket propulsion	MSc	4	2/2/0/0
AE4S01P	Exercise Thermal Rocket Propulsion	MSc	2	0/2/0/0
AE4S06	Spacecraft mechatronics	MSc	4	4/0/0/0
AE4S06P	Spacecraft Mechatronics Exercise	MSc	1	0/1/0/0
AE4S10	Microsat engineering	MSc	4	0/0/2/0
AE4S12	Space systems engineering	MSc	3	2/2/0/0
AE4S12E	Exercise Space Systems Engineering	MSc	2	0/0/2/0
AE4S20	Satellite thermal control	MSc	3	0/2/0/0
AE4T40	Airborne Wind Energy	MSc	3	2/2/0/0
AE4W09	Wind Turbine Design	MSc	5	0/0/2/2
AE4W13	Site Conditions for Wind Turbine Design	MSc	3	0/0/2/2
AE4W21-14	Wind Turbine Aeroelasticity	MSc	2	0/0/0/2
ME45000	Advanced Heat Transfer	MSc	3	4/0/0/0
WI2056LR	Systemtheorie LR	MSc	4	4/0/0/0
WI3150TU	Partial Differential Equations A	MSc	3	4/0/0/0

WM0324LR	Ethics and Engineering for Aerospace Engineering <i>**This course can be taken in period 2 or 3, course only lasts 1 period. **</i>	MSc	3	0/4/4/0
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*Starting period from/to*

*1 - semester I September 4, 2017 - November 10, 2017*

*2 - semester I November 13, 2017 - February 2, 2018*

*3 - semester II February 5, 2018 - April 20, 2018*

*4 - semester II April 23, 2018 - July 6, 2018*

[For the latest version of this list visit: http://www.studiegids.tudelft.nl/](http://www.studiegids.tudelft.nl/)

Please note that the following courses (projects) are **not available for Exchange Students**:

AE1111-I Exploring Aerospace Engineering

AE1222-I Design and Construction

AE2111-I Systems Design

AE2130-II Low-Speed Windtunnel Test

AE2223-I Test, Analysis & Simulation

AE3212-II Simulation, Verification & Validation

AE3200 Design Synthesis

AE4ASM003 Linear Modelling

AE4ASM105 Trinity Exercise

AE4ASM505 Non-Linear Modeling (using F.E.M.)

AE4ASM512 Aerospace Structures and Materials Industry Best Practice

AE4ASM513 Forensic Engineering

AE4ASM517 Aircraft Manufacturing Laboratory

AE4010 Research Methodologies

AE4020 Literature Study

AE5050 Internship

AE5110 Thesis Aerodynamics & Wind Energy

AE5310 Thesis Control & Operations

AE5810 Thesis Space

AE5711 Thesis Aerospace Structures & Materials

AE5211 Thesis Flight Performance & Propulsion

AE5912 Thesis Wind Energy Rotor Design

**TU Delft - English BSc courses available for incoming US exchange students  
Applied Sciences**

Most recent information on courses and academic calendar can be found on  
[www.studyguide.tudelft.nl](http://www.studyguide.tudelft.nl)

Please note the list below is indicative.

**Applied Physics** (BSc and MSc courses that are do-able by 3rd year bachelor students)

Code	Name	Cat.	EC	octaal
TN1651	Introduction to Biophysics	B	3	4
TN2304	Quantum Mechanics for the minor	B	4	2
TN2624	Statistical Physics for the minor	B	4	3
TN2612	Theory of Relativity	B	3	1
TN2402	Literature Research in groups	B	4	3
AP3261D	Mesoscopic Physics	M	6	
AP3303	Applications of Quantum Mechanics	M	3	
AP3311D	Neutrons, X-Rays and Positrons for Studying Microscopic Structures and Dynamics	M	6	
AP3392	Geometrical Optics	M	6	
AP3511D	Biophysics	M	6	
AP3582	Medical Physics of Photon and Proton Therapy	M	6	
CH3792	Introduction to Nuclear Science and Engineering	M	6	
AP3991	Research Project	B&M	12-30	

**Minor "Physics for Non-Physics Students"**

Code	Name	Cat.	EC
TN2305	Quantum Mechanics for the minor	B	4
TN2625	Statistical Physics for the minor	B	4
TN2893	Introduction to Methods in Physics and Mathematics	B	4
TN2993	Experimental and Integrating Final Project	B	5
TN2612	Theory of Relativity	B	3
TN2402	Literature Research in groups	B	4
NB2011	Thermodynamics and Transport	B	3
TN1651	Introduction to Biophysics	B	3

**Chemical Engineering** (BSc and MSc courses that are do-able by 3rd year bachelor students)

Code	Name	Cat.	EC	
CH3131	Applied Numerical Mathematics	M	6	
CH3792	Introduction to Nuclear Science and Engineering	M	6	
CH3562	Nanoparticle Technology	M	3	
CH3141	Molecular Thermodynamics	M	6	
CH3073	Separation Processes, Design and Operation	M	3	
CH3632	Chemistry of Solar Cells	B&M	6	
CH3043	Process Dynamics & Control	M	3	
CH3861	Hydro Carbon Processing	M	3	(offered in odd years only)
CH3082	Chemical Technology	M	3	(offered in even years only)
CH3782	Chemistry of the Nuclear Fuel Cycle	M	3	
CH3771	Nuclear Chemistry	B&M	6	
CH3622	Process Intensification	M	3	
CH3982	Literature Study	B&M	3-6	
CH3991	Research Project	B&M	15-30	

**Molecular Science & Technology**

Code	Name	Cat.	EC	
4052CHREKY	Chemical Reactor Engineering	B	6	(2nd year of bachelors)

**Life Science & Technology**

Code	Name	Cat.	EC	
LB2201	Bio-Based Materials in a Circular Economy	B	4	
LB2951	Cell Signaling and Biophysics	B	8	at Leiden University
LB2961	Biocatalysis	B	5	
LB2971	Inorganic Chemistry in Life	B	5	at Leiden University
LB2941	Quantitative Imaging in Life Sciences	B	5	at Leiden University

**NanoBiology**

Code	Name	Cat.	EC	Starting period Octal	Maximum number of exchange students	Location
<b>Propedeuse</b>						
NB1022	Genetics	Bsc	4	1	10	Erasmus MC
NB1012	Biomolecular Dynamics-1	Bsc	3	4	10	Erasmus MC
NB1016	Biomolecular Dynamics-2	Bsc	3	5	10	Erasmus MC
NB1071	Physical Biology of the Cell part 1	Bsc	3	7	5	Erasmus MC
NB1131	Biophysics	Bsc	3	6	5	TU Delft
NB1140	Physics 1a	BSc	4	3	5	TU Delft
NB1143	Physics1b	BSc	3	5	5	TU Delft
NB1102	Chemistry-1	BSc	3	2	5	Erasmus MC
NB1110	Chemistry-2	BSc	3	3	5	Erasmus MC
WI1415NB	Analysis-1	BSc	5	1	5	TU Delft
WI1423NB	Analysis-2	BSc	5	3	5	TU Delft
WI1416NB	Analysis-3	BSc	3	7	5	TU Delft
WI1142NB	Linear Algebra	BSc	3	7	5	TU Delft

**Head Phase 2nd Year**

NB2071	Physical Biology of the Cell part 2	Bsc	3	1	5	TU Delft
NB2031	Evolutionary and Developmental Biology	Bsc	6	3	5	Erasmus MC
NB2111	Evolution	Bsc	3	6	5	TU Delft
NB2041	Optics and Microscopy	Bsc	3	6	10	TU Delft
NB2141	Physics 2	BSc	3	1	5	TU Delft
NB2061	Differential equations	BSc	3	1	5	TU Delft
NB2171	Statistics	BSc	3	5	5	TU Delft
NB2121	Image analysis	BSc	3	8	5	Erasmus MC
NB2161	Bioinformatics	BSc	4,5	7	5	TU Delft



## Provisional list course packages 2017-2018 for EXCHANGE STUDENTS

Due to issues concerning scheduling and availability, we cannot offer our exchange students a free choice of subjects.

Within the study exchange program, the Faculty of Architecture and the Built Environment allows Master level students to make their choice from its Master 1 programs. Bachelor level students have a choice from our English taught Bachelor minor programs and are not admitted to the Master 1 programs. Below you will find the list of course packages we offer. Since we cannot guarantee enrolment in your first choice, it is obligatory to mention a second choice and a third choice on the application form. In case you apply for two semesters you only have to mention the three choices for the first semester. You can enrol yourself for the second semester in November 2017; any choices for the second semester will not be taken into account. Please note that it is still possible that there might occur some minor changes in the offered course packages. In May the courses for the preceding Academic Year will be published on our website again.

**Once you have sent us the application form it is not allowed to switch programmes.**

**Note:** <sup>1</sup> = only in autumn semester; <sup>2</sup> = only in spring semester

### English taught Bachelor minors

#### MINOR Archineering<sup>1</sup>

Subject Code	Subject Title	ECTS
BK7460-13	Archineering 1	15
BK7461	Archineering 2	15

#### MINOR Neighbourhood of the Future - Green Blue Cities<sup>1</sup>

Subject Code	Subject Title	ECTS
BK7210	Urban Analysis and Design	3
BK7250	Sustainable Urbanism	3
BK7252	Transformation Strategies for Deprived Districts	3
BK7263	Future Proof Urban Project	9
BK7264	Future Proof Spatial Transformation Strategy	9
BK7265	Urban Design Evaluation	3

#### MINOR House of the Future<sup>1</sup>

Subject Code	Subject Title	ECTS
BK7800	Project House of the Future (Design	15
BK7810	Analysis and Model Study (Design Analysis)	7.5
BK7820	Imaging and Communication (Form Study)	7.5

#### MINOR Retail Design<sup>1</sup>

[\(for this minor is a selection procedure, please send your portfolio and motivation to L.M.M.deWit@tudelft.nl\)](#)

Subject Code	Subject Title	ECTS
BK7060	Retail Design: Design Project	15
BK7061	Retail Design: Lecture Series	5
BK7062	Retail Design: Toolkit	5
BK7063	Retail Design: Workshop	5

#### MINOR Heritage and Design<sup>1</sup>

Subject Code	Subject Title	ECTS
BK7550	Landscape and Transition	5
BK7551	History of Architecture, City and Landscape	5
BK7552	Heritage: Theory and Practice	5
BK7553	Architecture and Re-use	5

BK7554	History of Art	5
BK7555	City and Transformation	5

## Master Architecture specializations

### ARCHITECTURE AND DWELLING

Subject Code	Subject Title	ECTS
AR 1A060	Delft Lectures on Architectural Design	3
AR 1A065	Delft Lectures on Architectural History	3
AR 1A075	Delft seminars on Building Technology	6
AR 1AD030	Seminar Architectural Studies	3
AR 1AD040	Seminar Architectural Reflections	3
AR 1AD011	Dwelling Design Studio: Architecture & Dwelling 'The Netherlands'	12
AR1AD0122	Dwelling Design Studio: 'Global Housing'	12

### ARCHITECTURAL ENGINEERING

Subject Code	Subject Title	ECTS
AR 1A060	Delft Lectures on Architectural Design	3
AR 1A065	Delft Lectures on Architectural History	3
AR 1A075	Delft seminars on Building Technology	6
AR1AE010	EXTREME	12
AR1AE020	Extreme Seminar	6

### ARCHITECTURE AND PUBLIC BUILDING<sup>1</sup>

Subject Code	Subject Title	ECTS
AR 1A060	Delft Lectures on Architectural Design	3
AR 1A065	Delft Lectures on Architectural History	3
AR 1A075	Delft seminars on Building Technology	6
AR 1AP030	Seminar Architectural Studies	3
AR 1AP040	Seminar Architectural Reflections	3
AR 1AP011	Public Building Design Studio: Architecture & Public Building	12

### COMPLEX PROJECTS

Subject Code	Subject Title	ECTS
AR 1A060	Delft Lectures on Architectural Design	3
AR 1A065	Delft Lectures on Architectural History	3
AR 1A075	Delft seminars on Building Technology	6
AR 1CP010	Complex Projects Design Studio	12
AR 1CP040	Anatomy of a Landmark Seminar	6

### HYPERBODY<sup>1</sup>

Subject Code	Subject Title	ECTS
AR 1A060	Delft Lectures on Architectural Design	3
AR 1A065	Delft Lectures on Architectural History	3
AR 1A075	Delft seminars on Building Technology	6

AR 1AUE010	Hyperbody Design Studio: Non-Standard Buildings	12
AR 1AUE020	Hyperbody Architectural Studies: Non-Standard Buildings	3
AR 1AUE070	Hyperbody Media Studies: Introduction to interactive and social media	3

#### METHODS AND ANALYSIS

Subject Code	Subject Title	ECTS
AR 1A060	Delft Lectures on Architectural Design	3
AR 1A065	Delft Lectures on Architectural History	3
AR 1A075	Delft seminars on Building Technology	6
AR 1MET010	Ways of Doing	12
AR 1MET030	Tools of Architecture	3
AR 1MET040	Roles of the Architect	3

#### HERITAGE & ARCHITECTURE

Subject Code	Subject Title	ECTS
AR 1A060	Delft Lectures on Architectural Design	3
AR 1A065	Delft Lectures on Architectural History	3
AR 1A075	Delft seminars on Building Technology	6
AR 1AR010	Heritage and Architecture: Methodologies of Architectural Re-use	3
AR 1AR011	Heritage and Architecture Design Studio: Architectonic Design	12
AR 1AR080	Heritage and Architecture: Technology of Conservation	3

#### Interiors Buildings Cities

Subject Code	Subject Title	ECTS
AR 1A060	Delft Lectures on Architectural Design	3
AR 1A065	Delft Lectures on Architectural History	3
AR 1A075	Delft seminars on Building Technology	6
AR 1AI010	Interiors Buildings Cities MSc 1 Design Project	12
AR 1AI030	Interiors Buildings Cities Fundamentals 1	3
AR 1AI035	Interiors Buildings Cities Fundamentals 2	3

#### THE WHY FACTORY<sup>1</sup>

Subject Code	Subject Title	ECTS
AR 1A060	Delft Lectures on Architectural Design	3
AR 1A065	Delft Lectures on Architectural History	3
AR 1A075	Delft seminars on Building Technology	6
AR 1TWF010	The Why Factory Design Studio: Design lab I	12
AR 1TWF020	The Why Factory: Actualities Workshop	3
AR 1TWF030	The Why Factory: Future Models I	3

### Master Building Technology

Subject Code	Subject Title	ECTS
<a href="#">AR0531</a>	Innovation and Sustainability	6
AR1B015-D1	Bucky Lab Design - Design	7
AR1B015-D2	Bucky Lab Design - CAD	3
AR1B015-D3	Bucky Lab Design - Production Technique	2
AR1B025-D1	Bucky Lab Seminars - Structural Mechanics	3
AR1B025-D2	Bucky Lab Seminars - Material Science	3
AR1B025-D3	Bucky Lab Seminars+ - BT Research Methodology	3
AR1B025-D4	Bucky Lab Seminars+ - Building Physics	3

### Master Landscape Architecture<sup>1</sup>

Subject Code	Subject Title	ECTS
AR1LA010	Villa Urbana: Design of an Experimental Ensemble	6
AR1LA020	Landscape as Object of Architecture	3
AR1LA031	TOPOS	3
AR1LA040	Green Architecture: Designing with Plants	3
<a href="#">AR1LA050</a>	Dutch Waterscapes: Design of a Leisure Landscape	6
<a href="#">AR1LA060</a>	The Fine Dutch Tradition	3
<a href="#">AR1LA070</a>	Reflecting Ideas on Landscape: Paradigms and Positions	3
<a href="#">AR1LA080</a>	Landscape Components: Green and Blue	3

### Master Management in the Built Environment<sup>1</sup>

Subject Code	Subject Title	ECTS
AR 1R016	Design and Construction Management	7
AR 1R025	Real Estate Management	7
AR 1R035	Housing Policy, Management and Sustainability	7
AR 1R046	Management and Finance 1	6
AR 1R055	Qualitative Research Methods in Design and Engineering	3

### Master Urbanism<sup>1</sup>

Subject Code	Subject Title	ECTS
AR1U090	R&D Studio: Analysis and Design of Urban Form	10
AR1U100	R&D Studio: Socio-Spatial Processes in the City	10
AR1U121	History and Theory of Urbanism	5
AR1U131	Sustainable Urban Engineering of Territory	5

## Master Geomatics

### Fall semester\*

Subject Code	Subject Title	ECTS
GEO1000	Python Programming for Geomatics	5
GEO1001	Sensing Technologies for the Built Environment	5
GEO1002	Geographical Information Systems (GIS) and Cartography	5
GEO1003	Positioning and Location Awareness	5
GEO1005	Spatial Decision Support for Planning and Crisis Management	5
GEO1006	Geo Database Management Systems	5

### Spring semester\*

Subject Code	Subject Title	ECTS
GEO1004	3D-modelling of the Built Environment	5
GEO1008	Geo Datasets and Quality	5
GEO1009	Geo-information Organisation and Legislation	5
GEO1007	Geoweb technology	5
GEO1101	Geomatics Synthesis Project (GSP)	10

**Note:** <sup>1</sup> = only in autumn semester; <sup>2</sup> = only in spring semester

*\*The FALL semester is accessible for students studying in the field of Geomatics Engineering & Surveying. The SPRING semester requires the courses of the FALL semester or equal knowledge & skills based on a students own educational programme: Python programming, Sensing Technologies, GIS&Cartography, Location Awareness & Positioning Technologies, Spatial Decision Support Systems & Disaster Management, Geo-DataBase Management Systems.*

*The SYNTHESIS project is only accessible for students who followed all core courses of Q1-Q3 or based on proof that they have equal knowledge & skills based on their own Geomatics Programme.*

*In the course catalogue ([www.studyguide.tudelft.nl](http://www.studyguide.tudelft.nl)) you will find more detailed information on the courses above. You will find a manual to the study guide via this link: [studyguide manual](#) .*

TU Delft - English BSc courses available for incoming US exchange students  
Civil Engineering & Geosciences

Code	Name	Track	Specialisation	EC	Contact hours in education period	Education quarter
CTB3310	Surveying & Mapping	Year 3	All (Remote Sensing, basic course)	4	6	3
CTB3330	Constructiemechanica 4 - Structural Mechanics 4	Year 3	Structural Mechanics	4	6	3
CTB3335	Betonconstructies 2 - Concrete Structures 2	Year 3	Structural Mechanics	4	4	3
CTB3350	Stroming in Waterlopen - Open Channel Flow	Year 3	Hydraulic Engineering	4	6	3
CTB3355	Constructieve Waterbouw 1 - Hydraulic Structures 1	Year 3	Hydraulic Engineering	4	6	3
CTB3360	Waterbeheersing - Water Control	Year 3	Water Management	4	6	1, 3
CTB3370	Geometrisch Ontwerp van Wegen en Spoorwegen Geometrical Design of Roads and Railways	Year 3	Transport & Planning	4	10	3
CTB3385	Ondergronds ruimtegebruik - Use of Underground Space	Year 3	Geo	4	4	3
CTB3390	Mechanica en Transport door Stroming in Poreuze Media - Mechanics and Flow in Poreus Media	Year 3	Geo	4	4	3
CTB3415	Water Management Research	Year 3	Water Management	4	8	4
CTB3420	Integraal Ontwerp van Infrastructuur - Integral Design of Infrastructure	Year 3	Structural Mechanics, T&P, CME	4	6	4
CTB2310	Soil Mechanics	Year 2	Geo, basic course	5		3
CT3101	Project Management Basics	Minor		5		1
CT3102-15	Introduction to project finance & legal aspects of projects	Minor		5		1
CT3103	Integration: technical project	Minor		10		1+2
CT3201	Interdisciplinary & Collaborative Design Project	Minor		9		2
CT3361	Urban Planning and Transport Networks	Minor		4		2
CT3366	Economie van Transport en Externe Effecten	Minor		4		1
SPM6102	Process Management and decisionmaking	Minor		5		2
BK7930	Environment & Infrastructures: Urban Systems	Minor		3		1
BK7931	Environment and Infrastructures: B. Landscapes	Minor		3		1
BK7932	Introduction to Integrated Infrastructure Design	Minor		3		1
BK7933	Idiosyncratic Infrastructures	Minor		3		2
BK7934	Design of (infra-)structures	Minor		6		1+2
WB3501	Fit-for-purpose Project Management	Minor		5		2

**English Taught Bachelor Courses at TU Delft,  
Faculty of Electrical Engineering, Mathematics and Computer Science (EEMCS)**

Academic year 2017/2018

Course descriptions can be found in the digital study guide: [studyguide.tudelft.nl](http://studyguide.tudelft.nl).

**BSc**

All BSc students coming to EEMCS are strongly advised to choose a minor. Individual courses from a minor can not be followed separately, unless they are mentioned in the normal subject list.

A minor is a well-rounded package of courses on one main topic. In the first semester of the 3rd year all BSc students choose a Minor. All minors are taught in English. The advantage is that students will not encounter scheduling problems and will work together with other (Dutch) students in a group.

**MSc**

Almost all MSc courses are open to students who will follow an exchange period after completing their BSc or at least 6 semesters of studies in a similar field.

All MSc courses are taught in English.

Minor Autonomous Exploration Robots (Electrical Engineering)				
Code	Course Name	EC	Period	Note
Regular Minor Programme				
EE3310TU	Telecommunications Techniques	3	1	
ET3033TU	Circuit Analysis	3	1	
ET3604LR	Electronic Circuits	3	1	
ET3604LRP	Electronic Circuits (part of ET3604LR)	0	1	
TI2726-A	Signal Processing	5	1	
EE3330TU	Guiding & Radiating	4	2	
EE3331TU	Structured Electronic Design - Basics	4	2	
ET3051TU	Electronic Power Conversion	4	2	
EE3039TU	Marsrover project	4	2	
Minor Programme for Students Computer Science				
EE3310TU	Telecommunications Techniques	3	1	
ET3033TU	Circuit Analysis	3	1	
ET3604LR	Electronic Circuits	3	1	
ET3604LRP	Electronic Circuits (part of ET3604LR)	0	1	
TI2716-A	Signal Processing	5	1	
EE3330TU	Guiding & Radiating	4	2	
EE3331TU	Structured Electronic Design - Basics	4	2	
ET3051TU	Electronic Power Conversion	4	2	
EE3039TU	Marsrover project	4	2	

Minor Electrical Sustainable Energy Systems (Electrical Engineering)				
Code	Course Name	EC	Period	Note
Minor Programme for Electrical Engineering Students				
EE3065TU	Reliability of Sustainable Power Systems	3	1	
EE3105TU	Sustainable Energy Technologies	3	1	
EE3110TU	Energy Efficiency	3	1	
ET3037TU	Project Integrating Renewable Energy	6	1	
EE3060TU	Agent-based Energy Markets	3	2	
ET3034TU	Solar Energy	3	2	
ET3036TU	Project Design of Sustainable Energy Supply	6	2	
Minor Programme for non-Electrical Engineering Students				
Compulsory Courses				
ET3365TU D1	Introduction to Electrical Power Engineering part 1	3	1	
EE3105TU	Sustainable Energy Technologies	3	1	
ET3037TU	Project Integrating Renewable Energy	6	1	
ET3365TU D2	Introduction to Electrical Power Engineering part 2	3	2	
ET3034TU	Solar Energy	3	2	
ET3036TU	Project Design of sustainable energy supply	6	2	
Electives (6 EC) Courses				
EE3060TU	Agent-based Energy Markets	3	2	

EE3065TU	Reliability of Sustainable Power Systems	3	1	
EE3110TU	Energy Efficiency	3	1	

Minor Software Design and Application (Computer Science)				
Code	Course Name	EC	Period	Note
Core Courses (15 EC)				
TI2206	Software Engineering Methods	5	1	
TI3100TU	Minor Introduction	0	1	
TI3105TU	Introduction to Python Programming	5	1	
TI3110TU	Algorithms and Data structures	5	2	
Elective Courses Data Science (15 EC)				
TI2736-A	Computational Intelligence	5	1	
TI2735-B	Big data processing and analysis	5	2	
EWI3615TU	Project Big Data/Artificial Intelligence	5	2	
or Elective Courses Software Engineering (15 EC)				
TI1506	Web & Databases	5	2	
EWI3620TU	Project Software Engineering	10	2	
or Elective Courses Gaming Development(15 EC)				
EWI3610TU	Computer graphics	5	1	
EWI3620TU	Project Games development	10	2	

Minor Finance (Applied Mathematics)				
Code	Course Name	EC	Period	Note
WI3411TU	Time series	4	1	
WI3405TU	Option Valuation Methods	6	1,2	
WI3425TU	Monte Carlo methods	6	1,2	
WI3417TU	Introduction to Mathematical Finance	6	1,2	
WI3418TU	Principles of Asset Trading	0	1,2	
WI3421TU	Risk management	2	1,2	
WI3430TU	Current Issues in Finance	3	2	
WI3420TU	Clinic	3	2	

Minor Computational Science and Engineering (Applied Mathematics)				
Code	Course Name	EC	Period	Note
TW3710TU	Scientific Programming	3	1	
TW3715TU	Final Minor Project-part A	2	1	
TW3730TU	Numerical Methods for Differential Equations	6	1	
TW3740TU	Parallel Computing	4	1	
TW3720TU	Object Oriented Scientific Programming C++	3	2	
TW3725TU	Final Minor Project-part B	6	2	
TW3750TU	Numerical methods for Stochastic Differential Equations	6	2	

## BSc courses available for Exchange students - individual courses

Computer Science and Engineering				
Code	Course Name	EC	Period	Note
2nd year				
TI2206	Software Engineering Methods	5	1	
TI2716-A	Signal Processing	5	1	*
TI2726-A	Digital Systems	5	1	*
TI2736-A	Computational Intelligence	5	1	*
TI2506	Information and Data Modeling	5	2	
TI2306	Algorithm Design	5	2	
TI2726-B	Embedded Software	5	2	*
TI2736-B	Big Data Processing	5	2	*



TI2716-B	Image Processing	5	2	*
TI2406	Computer Networks	5	3	
TI2606	Concept of Programming Languages	5	3	
TI2716-C	Multimedia Analysis	5	3	*
TI2726-C	Operating Systems	5	3	*
TI2736-C	Data Mining	5	3	*
TI2316	Automata, Languages and Computability	5	4	
* All courses ending wit the same letter are taught at the same time				
3rd Year				
WM0328T1	IT and Values	5	3	
On individual basis projects of 15 EC can sometimes be arranged.				

Electrical Engineering				
Code	Course Name	EC	Period	Note
1st year				
EE1P11	Classical and Quantum Physics	5	1	
EE1C11	Linear Circuits A	5	1	
EE1C21	Linear Circuits B	5	2	
EE1D11	Digital Systems A	5	3	
EE1C31	Amplifiers and instrumentation	5	3	
EE1D21	Digital Systems B	5	3	
EE1P21	Electricity and Magnetism	5	4	
2nd year				
EE2E11	Electrical Energy Conversion	5	1	
EE2C11	Integrated Circuits	5	1	
EE2T11	Telecommunications A	5	3	
EE2E21	Sustainable Energy Supply	5	3	
EE2S31	Signal Processing	5	4	
EE2T21	Telecommunications B	5	4	
3rd Year				
EE3P11	Electromagnetics	5	3	
EE3D11	Computer Architecture and Organisation	5	3	
On individual basis projects of 15 EC can sometimes be arranged.				

Applied Mathematics				
Code	Course Name	EC	Period	Note
1st year				
TW1030	Linear Algebra 1	5	1	
TW1010	Mathematical Structures	6	1,2	
TW1040	Analysis 1	5	2	
TW1090	Introduction to Programming	5	2	
TN1531TW	Mechanics and Theory of Relativity	5	3	
TW1050-A	Modelling-A	5	3	
TW1070	Analysis 2	6	3,4	
TW1050-B	Modelling-B	5	4	
TW1080	Introduction to Probability	5	4	
2nd year				
TW2550	Advanced Statistics	5	3	
TW2510	Decision Theory	5	3	
TW2060	Numerical Methods 1	6	3,4	
3rd Year				
TW3520	Logic	5	3	
TW3530	Numerical Methods 2	5	3	
TW3560	Advanced Probability	5	3	
On individual basis projects of 15 EC can sometimes be arranged.				

TU Delft - English BSc courses available for incoming US exchange students

## Industrial Design Engineering

Code	Name	Cat.	EC	Starting period
IO1016ZI	Design Drawing for Erasmus and Adaptation		3	2, 4
IO1042	Design and experience	B	7,5	2
IO1080-13	Research and design	B	7,5	4
IO2010-15	PO3, Design Driven Innovation	B	7,5	2
IO2031	Strategic Product Innovation	B	7,5	1
IO2060-15	Interaction and electronics	B	7,5	3
IO2081	Modelling	B	7,5	4
IO3010	Cross Media Interaction Design	B	7,5	3
IO3020	Design and Cultural Impact	B	7,5	3
IO3030	Design Visualisation	B	7,5	3
IO3040	Software	B	7,5	3
IO3045	Video for Designers	B	7,5	3
IO3050	Mechatronics	B	7,5	3
IO3060	Creating in Project Teams	B	7,5	3
IO3075	Towards Circular Product Design	B	7,5	3

*Minor Automotive design\**

IO3610	Automotive Introduction	B	1	1
IO3620	Automotive Styling	B	4	1
IO3630	Automotive Technology	B	7	1
IO3640-12	Automotive Context	B	9	2
IO3650	Automotive Skills	B	6	2
WB3190IO	Automotive Safety and Human Factors	B	3	2

*Minor Sports Innovation\**

IO3710	Sports Innovation Kick-off Event		1	1
IO3720	Sports Innovation Theory		11	1
IO3730	Sports Innovation Research Assignment		5	1
IO3740	Sports Innovation Project		12	1
IO3750	Sports Innovation Symposium		1	1

*Minor Interactive Environment\**

IO3870	Interaction studies	B	3	1
IO3872	Design Strategies	B	3	1
IO3873	Design and Prototyping Studio	B	15	1
IO3874	Workshops	B	4	1
IO3875	Technical Studies	B	5	1

*Minor Advanced prototyping*

BK 7500	Design of Prototypes	B	7,5	1
BK 7511	Architectural prototypes	B	7,5	1
IO3850	Advanced prototyping for design	B	7,5	1
IO3851	Personal prototyping project	B	7,5	1

*\*Minors can only be taken as a whole, courses are not offered separately*

TU Delft - English BSc courses available for incoming US exchange students  
Technology, Policy & Management

Code	Name	Cat.	EC	Starting period
SPM6110LR	Policy Analysis	B	6	2
SPM6210	Serious Games & Virtual Worlds Colloquia	B	4	1
WM0103TU	Teamwork	B	3	1/2/4
WM0107TU-ENG	Conversation Skills	B/M	2	4
WM0161TU	Managing People	B	4	1
WM0201TU-Eng	Technical Writing	B	1	1/2/3/4
WM0203TU-Eng	Oral Presentation	B	1	1/2/3/4
WM0328IN	ICT-Society 4: Ethics and Law for Comput	B	4	3
WM0357TU	Value Sensitive Design: broadening the s	B	1,5	2
WM0365TU	Technology and the Future of Humanity	B	4	2
WM0902TU	Technology and Global Development	B	2	1
WM1110TU	English for Academic Purposes-2	B	3	1/3
WM1113TU	English for Academic Purpose-1	B	3	1/3
WM1137TU	Spoken English for Technologists-1	B/M	2	1/3
WM1136TU	Written English for Technologists 1	B/M	3	1/3
WM1102TU	Written English for Technologists 2	B/M	3	1/3
WM1101TU	English for Academic Purposes 3	B/M	3	1/3
WM1135TU	English for Academic Purposes 4	B/M	3	1/3
WM1112TU	Spoken English for Technologists 2	B/M	2	1/3
WM0820TU	Responsible Innovation. Introduction	B	5	1/2
WM0821TU	Responsible management of risk and safety	B	5	1/2
WM0369TU	Philosophy of the human being and technology	B	2,5	1/2
WM0628TU	Business Economics, choice of technique and innovation	B	5	1/2
SPM6401	Integrating course security systems analysis	B	5	1/2
WM0374TU	Project Research and Design	B	3	1/2
WM0565TU	Sustainable Entrepreneurship	B	3	1/2
WM0374TU	Project Research and Design	B	3	1/2
WM0565TU	Sustainable Entrepreneurship	B	3	1/2
WM0619TU	Business Marketing and Finance	B	3	1/2
WM0927TU	Intercultural Internship	B	15	1/2
WM0942TU	Development, Sustainability and Culture	B	6	1/2
WM4017TU	Case Study Sustainable Entrepreneurship	B	15	1/2
WM0628TU	Business economics, choice of technique and innovation	B	5	1/2
WM0821TU	Responsible management of risk and safety	B	5	1/2
SPM9448	Methods for Risk Analysis and Management	B	5	1/2
WM0713TU	Technology and Law	B	5	1/2
WM0827TU	Technology, Innovation and Ethics for companies	B	5	1/2
WM0837TU	Formal methods for strategic decision-making	B	2.5	1/2
WM0828TU	Minor Companies and Innovation Integration Course	B	5	1/2

TB221	Economics of Infrastructures	B	5	1
TB241TA	Logistics 2	B	5	1
TB242IA	Intelligent data analysis	B	5	2
TB142IA	Computer and information systems	B	5	4