

**Annex 1 to the Study and Examination Regulations for the Bachelor's Degree Programme Sustainable Civil Engineering at
Technische Hochschule Ingolstadt of 23.01.2023**

Overview of the modules and credits

First semester (1st - 2nd semester)

1	2	3	4	5			6	7	8	9
No.	Module s	SWS	Type of course	Exams			Scope		Weighting for the overall examination mark (factor)	Credit points (ECTS)
				Admission requirements	Art	Duration in minutes	written composition in pages	Presentation in slides		
1	Introduction Project	1	SU/Ü		LN 3)				0	2
2	Mathematics I	5	SU/Ü	LN3)	schrP	120			1	5
3	Mechanics I	5	SU/Ü	LN3)	schrP	90			1	5
4	Building Constructions I	4	SU/Ü	LN3)	schrP	120			1	5
5	Computer Programming; Computer Aided Design and Calculation in Civil Engineering	5	SU/Ü/Pr		schrP	90			1	5
6	Chemistry & Building Materials	4	SU/Ü/Pr		schPr	90			1	5
7	Building Physics/Energy Efficiency	3	SU/Ü/Pr		LN1)				1	3
8	Sustainability in Construction	2	SU/Ü		mdIP	15			1	2
9	Mathematics II	5	SU/Ü	LN3)	schrP	90			1	5
10	Mechanics II	5	SU/Ü	LN3)	schrP	90			1	5
11	Surveying	5	SU/Ü/Pr	LN3)	schrP	90			1	5
12	Construction Management/Entrepreneurship	4	SU/Ü		schrP	90			1	4
13	Low Carbon Construction	5	SU/Ü	LN3)	schrP	120			1	5
14	Sustainable Construction Materials	4	SU/Ü/Pr		schrP	90			1	4
	Total	58							13	60

Second stage of studies (3rd - 7th semester)

15	Reinforced Concrete Design I	4	SU/Ü	LN3)	schrP	120			2	5
16	Structural Analysis	4	SU/Ü	LN3)	schrP	120			2	5
17	Introduction Geotechnics and Transport Technology	5	SU/Ü	LN3)	schrP	90			2	5
18	Sanitation/Wastewater /Waste Management	4	SU/Ü		Proj	15	10-20		2	5
19	Fluid Mechanics & Hydro Mechanics	4	SU/Ü		schrP	90			2	5
20	Sustainable Design and Management of Buildings and Structures	4	SU/Ü		schrP	90			2	5
21	Reinforced Concrete Design II	4	SU/Ü	LN3)	schrP	90			2	5
22	Steel Construction	4	SU/Ü	LN3)	schrP	120			2	5
23	Law	5	SU/Ü		schrP	90			2	5
24	Geotechnic II & Soil Mechanics	5	SU/Ü/Pr	LN3)	schrP	120			2	5
25	Sustainable Transport Technology	4	SU/Ü	LN3)	schrP	90			2	5
26	Timber Construction & Resource Management	4	SU/Ü	LN3)	schrP	90			2	5
27	Digital Operation Management and Building Information Modelling	4	SU/Ü/Pr		schrP	90			2	5

28	Advanced Construction Methods	4	SU/Ü	LN3)	schrP	120			2	5
29	Digital Building Automation and Renewable Energy	4	SU/Ü		schrP	90			2	5
30	Construction Project and Sustainability Management	4	SU/Ü		schrP	90			2	5
31	Sustainable Buildings and Structures	2	SU/Ü		LN1)				2	3
32	Sustainable Structural Engineering	4	SU/Ü	LN3)	schrP	90			2	5
33	Life Cycle & Climate Change Adaptation Engineering	4	SU/Ü	LN3)	schrPr	90			2	5
34	Civil Engineering Project Management	4	SU/Ü		SA	15	8-15		2	5
35	Electives	8	SU/Ü/Pr		LN1),4)				4	8
36	Bachelor Thesis		BA				40-60		6	12
37	Bachelor Thesis Seminar	2	S		LN2)				0	2
	Total	90							50	120

Practical semester

38	Construction Internship (18 Weeks)		Pr		PrB		8-15		0	27
39	Scientific Methods	2	S		LN1)				1	3
	Total (practical semester)	2							1	30

Overview

	Theoretical study semesters in the 1st study stage	58							13	60
	Theoretical study semesters in the 2nd study stage	90							50	120
	Practical semester	2							1	30
	Total (overview)	150							64	210

Footnotes

Re1¹⁾ The certificate of achievement (LN) is alternatively a project work (Proj), an oral examination (mdlP) or a written examination. The details are determined by the Faculty Council in the module handbook.

Re2²⁾ The certificate of achievement (LN) is alternatively a written examination (90 minutes), an oral examination (15 minutes), a study paper (8-15 pages or 15-20 slides), a seminar paper (8-15 or 15-20 slides), or a project paper (15 minutes). Further details are determined by the Faculty Council in the module handbook. Assessment by the grade "passed with success" or "filed without success".

Re³⁾ The certificate of achievement (LN) is alternatively a seminar paper, study paper, colloquium or a practical examination. The details are determined by the Faculty Council in the module handbook.

The assessment is made by the rating "passed with success" or "passed without success".

Re⁴⁾ Compulsory elective modules should be completed by modules with 4 SWS or can be completed by modules with 2 SWS. If compulsory elective modules with 2 SWS are taken, the number of credits to be taken increases accordingly. A grade of at least sufficient for each individual performance record is a prerequisite for passing the Bachelor's examination.

Type of course Pr

Practical	
course	
S	Seminar
SU	Seminar teaching
Ü	Exercise
SU/Ü	Seminars with exercises

Type of examination

schrP	written examination	The written examination is a written examination of 90 minutes unless explicitly stated otherwise.
mdIP	oral examination	The oral examination is an interview lasting 15 minutes per person, unless explicitly stated otherwise.
prP	PracticalExam	The student's "real actions" are to be used to demonstrate that the student has mastered the practical application of the competences taught. The practical examination lasts 15 minutes unless explicitly stated otherwise.
StA project	Student research	The term paper is a term paper without an oral presentation. A term paper comprises at least 3000 to a maximum of 6000 words (approx. 10 to 20 pages: Text document approx. 10 to 15 pages or presentation approx. 15 to 20 slides).
SA	Seminar paper	The seminar paper is a term paper with an oral presentation. A term paper comprises at least 3000 to a maximum of 6000 words (approx. 10 to 20 pages: Text document approx. 8 to 15 pages or presentation approx. 15 to 20 slides). The oral presentation has a total length of 15 minutes and can also take place during the semester.
Proj	Project work	The project work is a group work in which several students work on a common task in a team and present the results orally and in writing. Each student has to contribute individually to the joint task and prepare an oral presentation of 15 minutes. The written part has a length of approx. 10-20 pages per student.
BA	Bachelor thesis	Written thesis in the Bachelor's degree programme: Maximum processing time (= period between registration of the Bachelor's thesis and submission) of 5 months / length 40-60 pages.
Coll	Colloquium	The colloquium is an oral examination of 10-15 minutes in which the student defends the result of his/her elaboration.
PrB	Internship report	The internship report is a written paper of 8-15 pages. It is a description of the student's activities during the internship. In addition to a short presentation of the training company, work processes in which the intern was involved, special problems and their solution by the intern as well as project work should be described.

