Welcome
to Leibniz Universität Hannover

Welcome

to the Faculty of Civil Engineering and Geodesy

We welcome all First Year Students of the

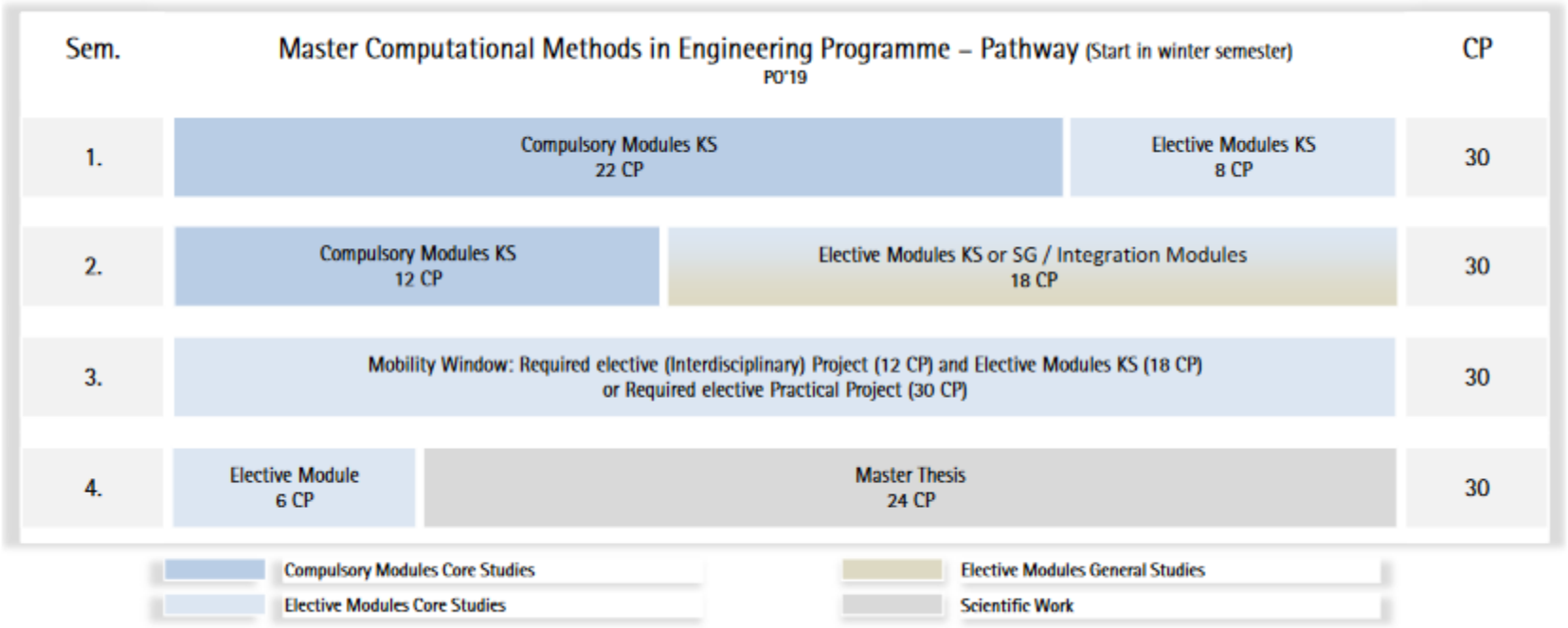
Master Degree Course

Computational Methods in Engineering

Teaching in WS 2022/23

- Classroom teaching in presence
- Wearing of mouth-nose protection is voluntary
- 19.12.22 - 08.01.23 online study at home, more information from the lecturers
- most important platform: StudIP www.studip.uni-hannover.de/
- CIP pools for individuals currently still closed
- Information about digital learning, CIP/CAD-Pool@Home on the website under the keyword "PC-Pools" or "Online Unterwegs".
- http://www.fbg.uni-hannover.de/de/studium/im-studium/pc-pools/

Structure of Computational Methods in Engineering



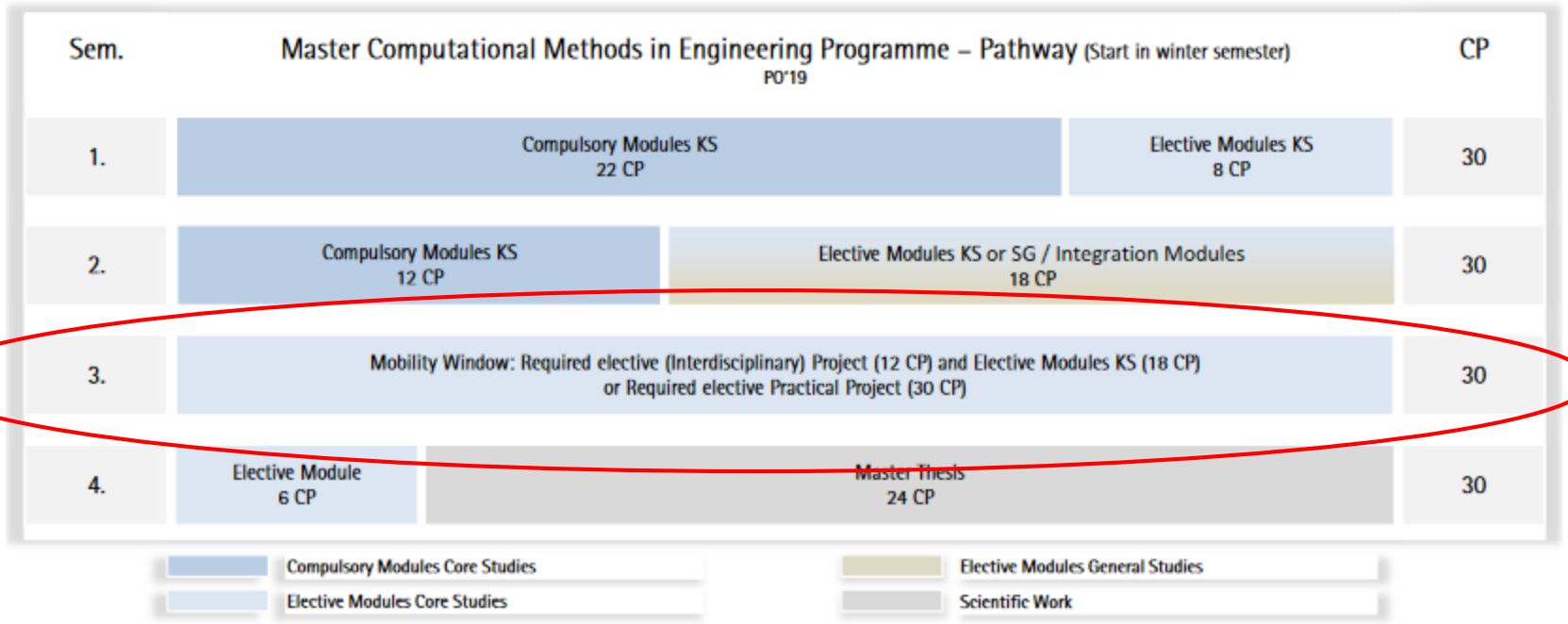
Legend

KB	Special Skills Area	SSF	E-Learning module in SoSe
KS	Core Studies	WSP+F	In-class and E-Learning module in WisSe
SG	General Studies	WSD	Module in German Language in WiSe
WA	Scientific Work	SSE	Module in English Language in SoSe
D	German	WS/SS	Module is offered in SoSe and WiSe
E	English	W	Elective
P	Compulsory	WP	Required elective

		Module	WS/SS	Language	CP	P/W KB	Self Planning 1	2	3	4	∑
1. Core Studies (KS)	34 CP	Foundations of Computational Engineering	WS/SS	E	6	P KS					
		Mechanics of Solids	WSP+F/SSF	E (online D)	6	P KS					
		Numerics of Partial Differential Equations 1+2	WS	E	10	P KS					
		Numerical Methods in Fluid Mechanics	SS	E	6	P KS					
		Reliability and Risk Analysis	WSF/SSP+F	E	6	P KS					
	≥ 44 CP	(Interdisciplinary) Project	WS/SS	D u E	12	WP FSV					
		Practical Project	WS/SS	D u E	30	WP FSV					
		Advanced Stochastic Analysis	WSP+F/SSF	E	6	W KS					
		Biomechanik der Knochen	SS	D	5	W KS					
		Bodendynamik	SS	D	6	W KS					
		Engineering Dynamics and Vibration	SS	E	5	W KS					
		Entwurf diskreter Steuerungen	WS	D	5	W KS					
		Fahrzeug-Fahrweg-Dynamik	SS	D	5	W KS					
		Faserverbund-Leichtbaustrukturen I	WS	D	6	W KS					
		Faserverbund-Leichtbaustrukturen II	SS	D	6	W KS					
		Finite Element Applications in Structural Analysis	SS	D u E	6	W KS					
		Geodata Infrastructures	SS	E	2	W KS					
		Grundwassermodellierung	SS	D	6	W KS					
		Hydrosystemmodellierung	WS	D	6	W KS					
		Image Analysis I	SS	E	5	W KS					
		Introduction to Mechanical Vibrations	WS	E	5	W KS					
		Kontinuumsmechanik II	SS	D	5	W KS					
		Künstliche Intelligenz I	SS	D	5	W KS					
		Laser Scanning – Modelling and Interpretation	WS	E	5	W KS					
		Mehrkörpersysteme	WS	D	5	W KS					
		Modelltechnik im Küsteningenieurwesen	WS	D	6	W KS					
		Monitoring Spatiotemporal and Network Data	WS	E	6	W KS					

						Carry over:						
2. General Studies (SG)	≤ 18 CP	Coastal and Estuarine Management	WS	E	6	W SG						
		Continuum Mechanics I	WS	E	5	W SG						
		Energieeffizienz bei Gebäuden	WS	D	6	W SG						
		Field Measuring Techniques in Coastal Engineering	SS	E	6	W SG						
		Grundlagen der Wellentheorie und Seegangsanalyse	WS	D	3	W SG						
		Hydrologische Extreme	WSD/SSE	D u E	6	W SG						
		Hydromechanics of Offshore Structures	WS	E	6	W SG						
		Küsteningenieurwesen	WS	D	6	W SG						
		Maritime and Port Engineering	SS	E	6	W SG						
		Meerestechnische Baulogistik	WS	D	6	W SG						
		Numerische Mathematik II	SS	D	10	W SG						
		Wasserbau und Verkehrswasserbau	SS	D	6	W SG						
		Water Resources Systems Analysis	WS	D u E	6	W SG						
		General Studies (Integration Modules/useful complement of further modules from the other offer of the LUH), e.g.										
		Computergestützte Numerik und Stochastik für Ingenieure	WS/SS	D	6	W SG						
		Deutsch für IngenieurInnen: Hörverstehen, Diskussion und Präsentation (B2)	WS	D	3	W SG						
		Elastomechanik	SS	D	6	W SG						
		Numerische Mechanik	WSF/SSP+F	D	6	W SG						
		Technical English	WS/SS	E	2	W SG						
3. WA	24 CP	Master Thesis	WS/SS	D u E	24	P WA						
						Total:						

Structure of Computational Methods in Engineering



Sem.	Master Computational Methods in Engineering Programme – Pathway (Start in winter semester) PO'19		CP
1.	Compulsory Modules KS 22 CP	Elective Modules KS 8 CP	30
2.	Compulsory Modules KS 12 CP	Elective Modules KS or SG / Integration Modules 18 CP	30
3.	Mobility Window: Required elective (Interdisciplinary) Project (12 CP) and Elective Modules KS (18 CP) or Required elective Practical Project (30 CP)		30
4.	Elective Module 6 CP	Master Thesis 24 CP	30

Structure Computational Methods in Engineering – Required Elective Modules

You have to CHOOSE between „Interdisciplinary Project“ or „Practial Project“.

Two variations of a scientific written paper

1. Interdisciplinary Project (IP)

- Within the framework of 12 ECTS/360 working hours, students will write an independent in-depth scientific paper on the basis of a scientific question/task.
- If possible, this task should be worked on in the context of a larger project in which several students from other disciplines are involved. Group work is desired. The recommended group size is between 2 and a maximum of 10 students.

Structure Computational Methods in Engineering Required Elective Modules

2. The Practical Project (PP)

- The aim is to establish a close link between studies and professional practice.
- In addition, acquisition of key competences, such as:
  - written/oral expression
  - time management, adaptability, flexibility
  - independence and joint responsibility
  - ability to work in a team

- Scientific written paper based on a scientific project that is worked on during a practical employment / internship.
- The Practical Project site must be outside of LUH; e.g. in industry, companies, engineering offices, research institutions or abroad.

Structure Computational Methods in Engineering Required Elective Modules

2. The Practical Project (PP)

- The topic and task are worked out with the examiner and the Practical Project company BEFORE the start of the practical employment.
- You have to look for a Practical Project Site on your own, some institutes have contacts.
- The examiner at LUH has to be found independently (see list of examiners).
- Admission and registration takes place in the Academic Examination Office using a form (see http://www.fbg.uni-hannover.de/formulare.html).
- Requirement for admission to PP or IP: 18 credits from compulsory modules

- The grade results from:
  - the proof of the hours completed
  - the written work
  - the colloquium

Structure Computational Methods in Engineering Required Elective Modules

Please get informed about all regulations BEFORE deciding on and planning for one of the Required Elective Modules.

- Information can be found in the Module Catalogue
- The Practical Project has its own guidelines which can be found on the Website
  http://www.fbg.uni-hannover.de/en/studies/courses-at-the-faculty/environmental-engineering/master-of-science-in-umweltingenieurwesen/practical-project

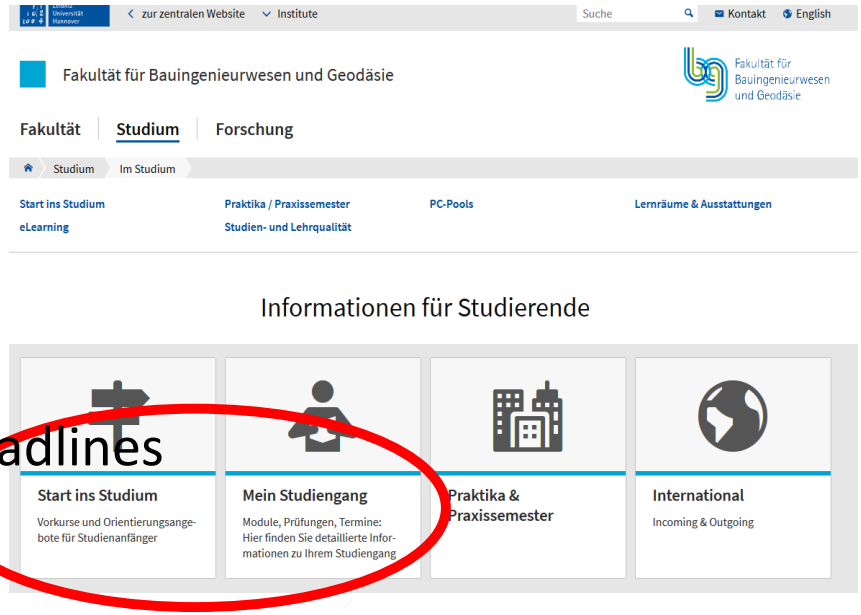
- There is also a guideline on writing scienific papers which should be used
  https://www.fbg.uni-hannover.de/en/studies/at-university/student-theses/

- **Please contact Student Advisory (Dean of Studies` Office) if there are any questions or insurances!**

Information on Faculty Website

www.fbg.uni-hannover.de -> Studies -> at University

-> my Degree Programme



- Module Overviews
- Module Catalogue
- Examiners List !!
- Semester Dates and important Deadlines
- Forms and Requests
- Examination Regulations (GER)
- Contacts

Exams and Study Achievements (Studienleistung)

Exams:

- Can be repeated twice if failed
- graded
- Must be registered for and deregistered

Study Achievements (Studienleistung):

- Can be repeated as often as neccessary
- Not graded but have to be passed
- Must be registered but not deregistered

Exam Form: „Veranstaltungsbegleitende Prüfung“ (VbP)

VbP is a type of examination that is taken during the semester.

- VbP serves as a "container" for a variety (up to 4) of examination types like:

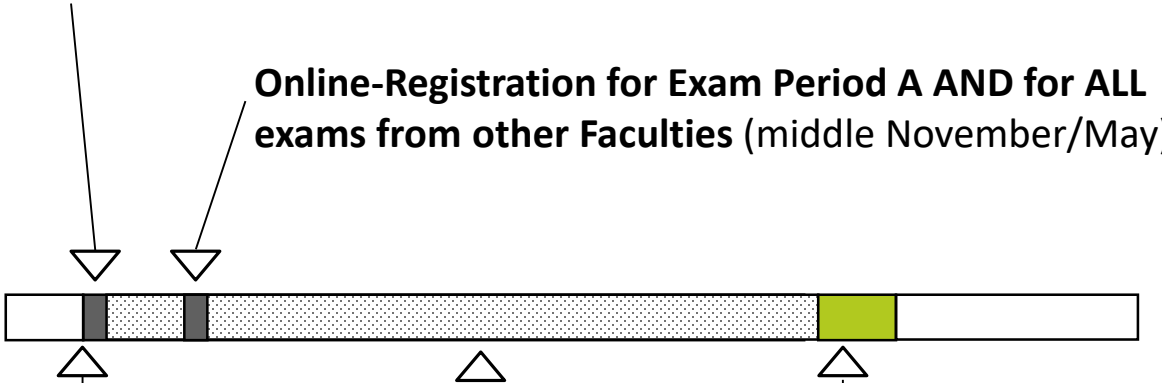
DO	Dokumentation	PF	Portfolio
KO	Kolloquium	PR	Präsentation
KU	Kurzarbeit (früher: Kurzklausur)	P	Projektarbeit
LÜ	Laborübung	SE	Seminarleistung

- Mean value of all types of examination must be passed to pass the Module
- Repetition of the VbP in the following semester or in another type of examination in examination period B (examiner decides! They will let you know.)

Semester-Timeline

Online-Registration „VbP“ and „Studienleistungen“ (middle October/April)

Online-Registration for Exam Period A AND for ALL exams from other Faculties (middle November/May)



Lecture period starts (middle Oktober/April)

Examination Period VbB

Examination Period A (after lecture period)

Semester-Timeline

Online-Registration „VbP“ and „Studienleistungen“ (middle October/April)

Online-Registration for Exam Period A and ALL exams from other Faculties (middle November/May)

Online-Registration for Exam Period B
(only for possible 2nd exams in modules from Faculty of Civil Engineering)

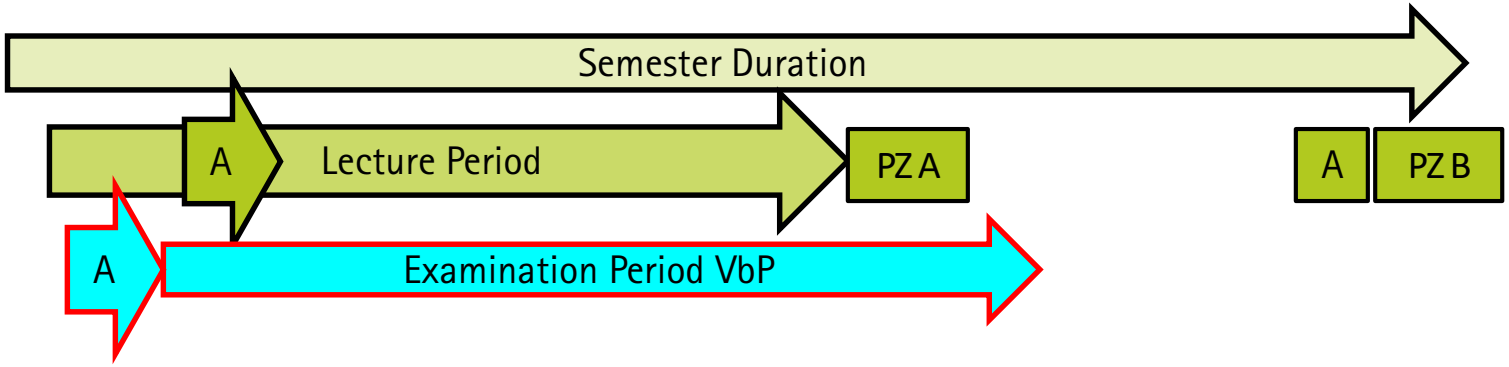
Lecture period starts (middle Oktober/April)

Examination Period VbB

Examination Period A (after lecture period)

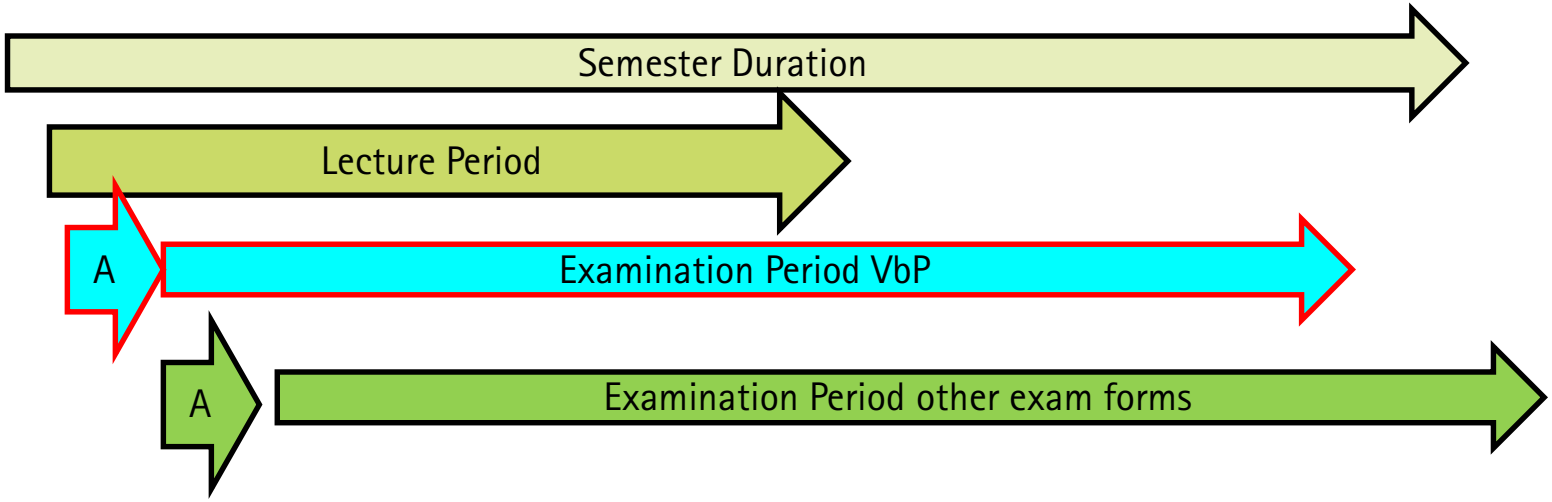
Examination Period B
(last week of the semester/ first week of new semester)

Registration and Exam Periods WS 22/23



Semster Duration:	10.10.2022 – 28.01.2023
Exam Registration for examination period A (PZA):	15.11.2022 – 30.11.2022
Exam Registration modules of other Faculties:	15.11.2022 – 30.11.2022
Registration (VbP, Studienleistung):	15.10.2022 – 31.10.2022
Examination Period A (PZA):	30.01.2023 –11.02.2023
Examination Period (VbP):	01.11.2022 – 28.02.2023
Exam Registration for examination period B (PZB): 16.03.2023 – 23.03.2023	
Examination Period B:	24.03.2023 – 06.04.2023

Registration and Exam Periods



- Next try only in the next semester
- MUST be registered in registration period A

Registration and Examination Periods

- If several types of examinations are required in a module, they must all be registered individually
- The parts of a VbP count together as one examination
- Study achievements must also be registered in our study programs
- What all belongs to the module, can be found in the examiners list

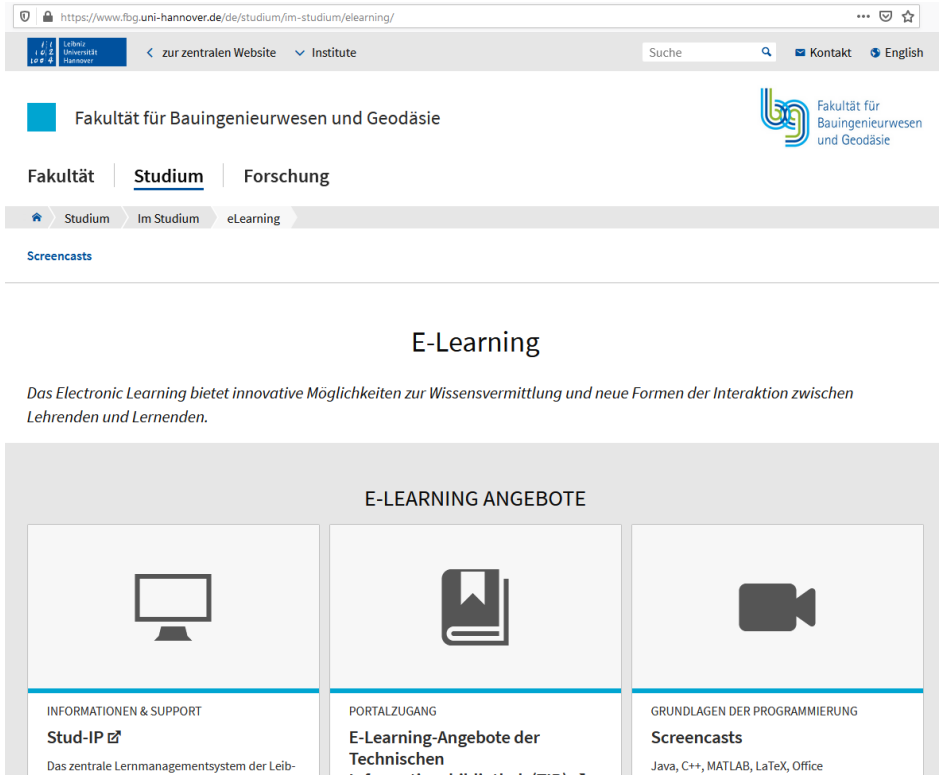
Registration and Examination Periods

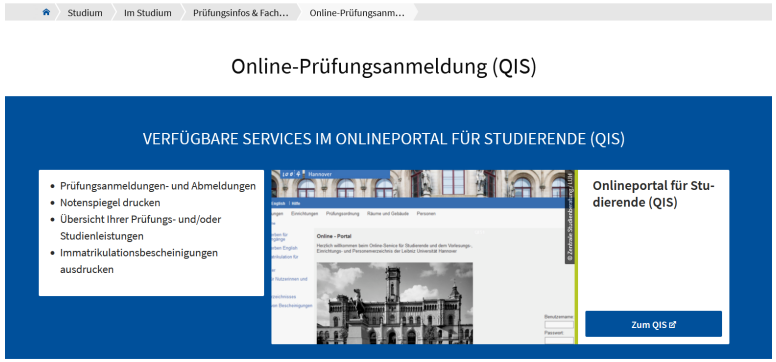
Registration and examination periods do not apply to Master Thesis, Interdisciplinary Projects and Practical Project

⇨ registration via form

and independently from examination periods

Difference Stud-IP and QIS





https://qis.verwaltung.uni-hannover.de/

- Exam administration
- Registration for EXAMS

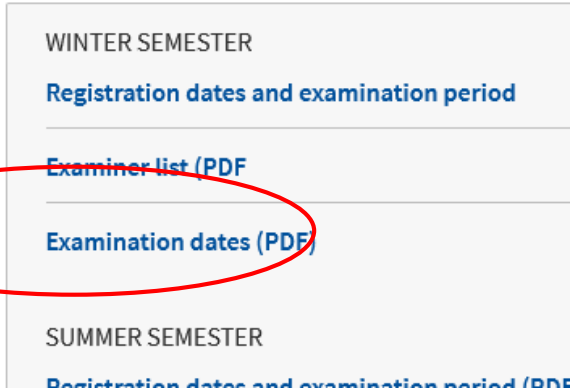
- Learning-platform
- Registration for modules / lectures

Examiners List

COURSE ACHIEVEMENTS AND EXAMINATION PERFORMANCES

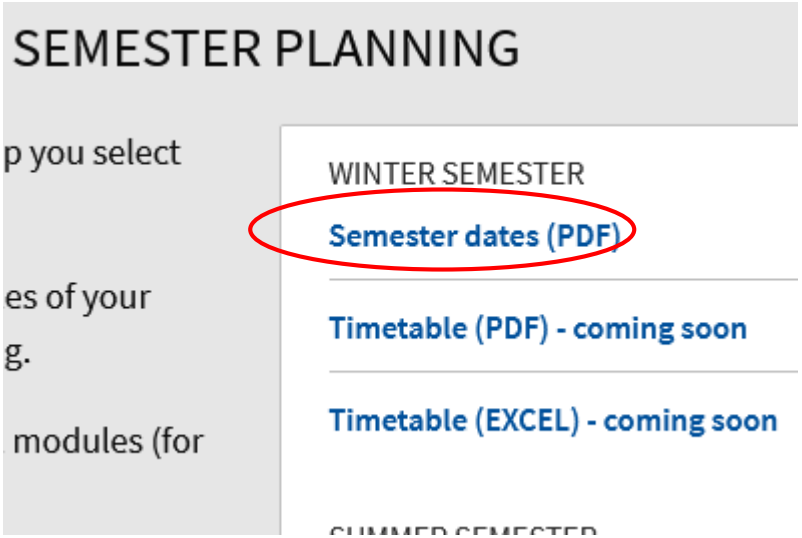
Here you will find the semester, registration and **exam dates** as well as the current courses (**examiner list**). Please contact the concerning institute for the dates of **oral examinations**.

Via the button **"Forms"** you get to a page where you will find the application forms for admission to the seminar and master thesis, to the registration for examinations within the **Studium Generale** and to further forms.
Please note the **different registration deadlines** of the two examination



Module name	type of exam VbP	VbP-repetition	type of exam PZA	type of exam PZB	Studien-leistung	Studienleistung Form	Testat	Examiner	Deputy Examiner
Foundations of Computational Engineering	-	-	MP	MP	1	unbenotete Hausübung	-	Beer, Michael	Nackenhorst, Udo; Neuweiler, Insa; Bittner, Marius
Mechanics of Solids	VbP	VbP im SoSe	-	-	-	-	Testat (20%)	Nackenhorst, Udo	Voelsen, Ester; Urrea, Jorge; Hammad, Mohammed
Robotik I	-	-	K	-	1	unbenotete Computerübungen	-	Müller, Mathias	Jacob, Hans-Georg

Important Dates and Deadlines WS 22/23



Termine im Wintersemester 2022/23

Bau- und Umweltingenieurwesen, Bauingenieurwesen, Umweltingenieurwesen, Computational Methods in Engineering

Leibniz Universität Hannover

Semesterdauer	Sa, 01.10.2022 – Fr, 31.03.2023
Vorlesungszeit	Mo, 10.10.2022 – Sa, 28.01.2023
Unterbrechung	Mo, 26.12.2022 – Sa, 07.01.2023
Meldung Prüfungsergebnisse SoSe 2022	fortl. bis Sa, 15.10.2022
Beantragung der vorläufigen bzw. eingeschränkten Zulassung zum Fachstudium	fortl. bis Fr, 21.10.2022
Pflichtberatung zum Entzug d. vorl. Zulassung z. FS	fortl. bis Fr, 28.10.2022
Prüfungsanmeldung „VbP - Veranstaltungsbegleitende Prüfungen"	Sa, 15.10.2022 – Mo, 31.10.2022
Rücktritt angemeldeter „VbP - Veranstaltungsbegleitender Prüfungen"	fortl. bis Beginn des ersten Prüfungsteils bzw. bis Ausgabe des Themas bei Prüfungsleistungen mit Abgabeterminen
Prüfungszeitraum „VbP - Veranstaltungsbegleitende Prüfungen" *	Di, 01.11.2022 – Di, 28.02.2023
Meldung Ergebinisse „VbP - Veranstaltungsbegleitende Prüfungen"	fortl. bis Mi, 15.03.2023
Prüfungsanmeldung „HA, K, KA, MP, PB, PJ und SP" Prüfungszeitraum A	Di, 15.11.2022 – Mi, 30.11.2022
Rücktritt angemeldeter Prüfungen „HA, K, KA, MP, PB, PJ und SP" Prüfungszeitraum A	- fortl. bis 7 Tage vor Prüfungsbeginn (K, KA) - fortl. bis 1 Tag vor Prüfungsbeginn (MP, SP) - fortl. bis Beginn der Prüfungsleistung bzw. bis Ausgabe des Themas (HA, PB, PJ)
Prüfungszeitraum A*	Mo, 30.01.2023 – Sa, 11.02.2023
Meldung Ergebnisse Prüfungszeitraum A	fortl. bis So, 12.02.2023

Regulations about failing the Degree Programme

- A failed exam can be repeated twice (3 attempts overall)
- After 3 failed exams in the same module, you will be exmatriculated from the Degree Programme

- If the last attempt for a module had the exam form „written exam“ there will be a supplementary oral exam before failing ultimately.

Deregistration and Withdrawal

Deregistration

- within the period specified for the type of examination
- without giving reasons
- depending on the type of examination in the system or with the examiner

Withdrawal

- after expiry of the deadline for the type of examination, but without delay
- by stating important reasons
- with form (annex 4 of the PO)
- to the examination board (pa-bau@fbg.uni-hannover.de)

No withdrawal by non-appearance!

Deregistration Deadlines

Deregistration within the designated period:

- for written examinations: until seven calendar days before the start of the examination (online in HIS-QIS)
- for oral examinations: up to one day before the start of the examination (written, by e-mail to the examiner)
- all other types of examinations: continuously until the beginning of the examination or the issue of the topic.

Proof of important reasons: Forms and certificates

- After the expiry of the deregistration period, the existence of an important reason is required for a withdrawal from the examination, which must be reported immediately to the examination board.
- Immediately means without hesitation, i.e. as quickly as possible.
- An important reason can be, for example, an illness, which must be proven by means of a medical certificate. If there are other important reasons not related to illness, these must be applied for using a separate application form and supporting documents.
- Further reasons are, special psychological stress as a result of the death of a close relative must be evidenced by appropriate certificates.
- If you have a child who is ill, we need a certificate from the pediatrician.

Excused or Unexcused Withdrawal

The Examination Board decides whether your valid reasons are approved or not.

- Withdrawal, excused (RTE) ⟹ no failed attempt

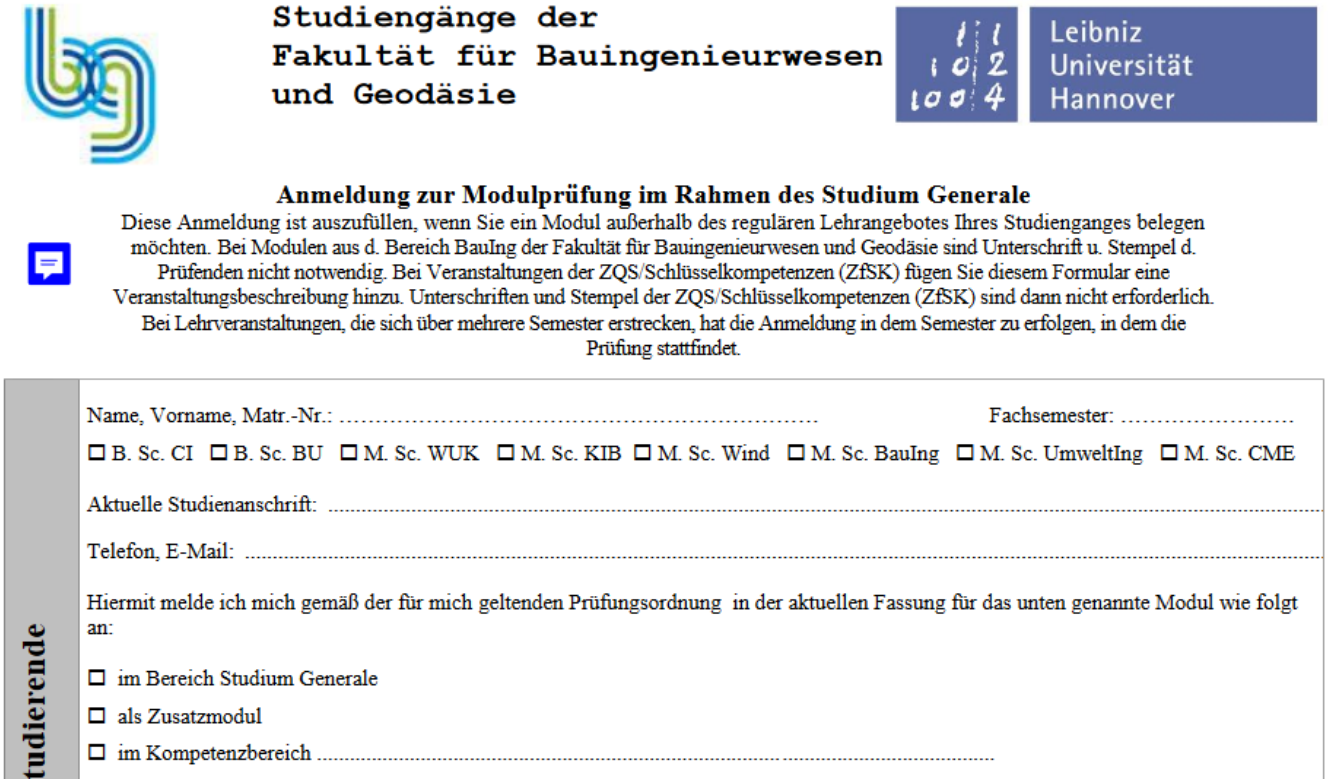
- Withdrawal, unexcused (RTU) ⟹ grade 5.0 or NB and failed attempt

Proof of important reasons: Forms and certificates

- Forms online: go.lu-h.de/pruefungsinfos
- Applications to the Examination Board (pa-bau@fbg.uni-hannover.de).

General Studies / Studium Generale

http://www.uni-hannover.de/fileadmin/luh/content/pruefungsamt/formulare/bauuming/Studium_Generale.pdf



Studiengänge der
Fakultät für Bauingenieurwesen
und Geodäsie

Leibniz Universität Hannover

Anmeldung zur Modulprüfung im Rahmen des Studium Generale

Diese Anmeldung ist auszufüllen, wenn Sie ein Modul außerhalb des regulären Lehrangebotes Ihres Studienganges belegen möchten. Bei Modulen aus d. Bereich BauIng der Fakultät für Bauingenieurwesen und Geodäsie sind Unterschrift u. Stempel d. Prüfenden nicht notwendig. Bei Veranstaltungen der ZQS/Schlüsselkompetenzen (ZfSK) fügen Sie diesem Formular eine Veranstaltungsbeschreibung hinzu. Unterschriften und Stempel der ZQS/Schlüsselkompetenzen (ZfSK) sind dann nicht erforderlich. Bei Lehrveranstaltungen, die sich über mehrere Semester erstrecken, hat die Anmeldung in dem Semester zu erfolgen, in dem die Prüfung stattfindet.

tudierende

Name, Vorname, Matr.-Nr.: ..... Fachsemester: .....

☐ B. Sc. CI ☐ B. Sc. BU ☐ M. Sc. WUK ☐ M. Sc. KIB ☐ M. Sc. Wind ☐ M. Sc. BauIng ☐ M. Sc. UmweltIng ☐ M. Sc. CME

Aktuelle Studienanschrift: .....

Telefon, E-Mail: .....

Hiermit melde ich mich gemäß der für mich geltenden Prüfungsordnung in der aktuellen Fassung für das unten genannte Modul wie folgt an:

☐ im Bereich Studium Generale

☐ als Zusatzmodul

☐ im Kompetenzbereich .....

Specialist Advice
Computational Methods in Engineering

Prof. Dr.-Ing. . Nackenhorst

Send study plans for evaluation and advice to:

nackenhorst@ibnm.uni-hannover.de

Dean of Studies‘ Office / Studiendekanat

Studiendekanat Bauingenieurwesen
Fakultät für Bauingenieurwesen und Geodäsie

Students Advice per
Mail: studiendekanat-bau@fbg.uni-hannover.de

Consulting Hours
Mondays 11 until 13 h,

phone 0511/ 762-
4755 or 19194

Student Counsel:
Fachrat Bau- und Umweltingenieurwesen:
http://www.fsr-bau.uni-hannover.de/de/