International Master Course Physics

Brandenburgische Technische Universität Cottbus - Senftenberg

Faculties

FACULTY 1

Mathematics, Computer Science, Physics, Electrical Engineering and Information Technology

FACULTY 2

Environment and Natural Sciences

FACULTY 3

Mechanical Engineering, Electrical and Energy Systems

FACULTY 4

Social Work, Health Care and Music

FACULTY 5

Business, Law and Social Sciences

FACULTY 6

Architecture, Civil Engineering and Urban Planning

Welcome to the Institute of Physics @ BTU!

Brandenburgische Technische Universität Cottbus - Senftenberg

Prof. H. Schenk
Micro- and Nano Systems
BTU + Fraunhofer IPMS

Prof. G. Seibold
Computational Physics

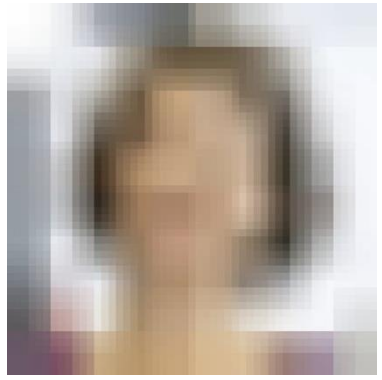
Prof. I. Flege
Applied Physics and
Semiconductor Spectroscopy

Prof. D. Gorelova
Computational Materials
Modeling

Prof. C. Wenger
Semiconductor Materials
BTU + IHP

Prof. C. Ruffert
BTU + Fraunhofer IPMS

Prof. I. Fischer
Experimental Physics and
Functional Materials



N.N.
Nanostructures, 2D-Systems
and Layers

International Master Course Physics: Essential Infos

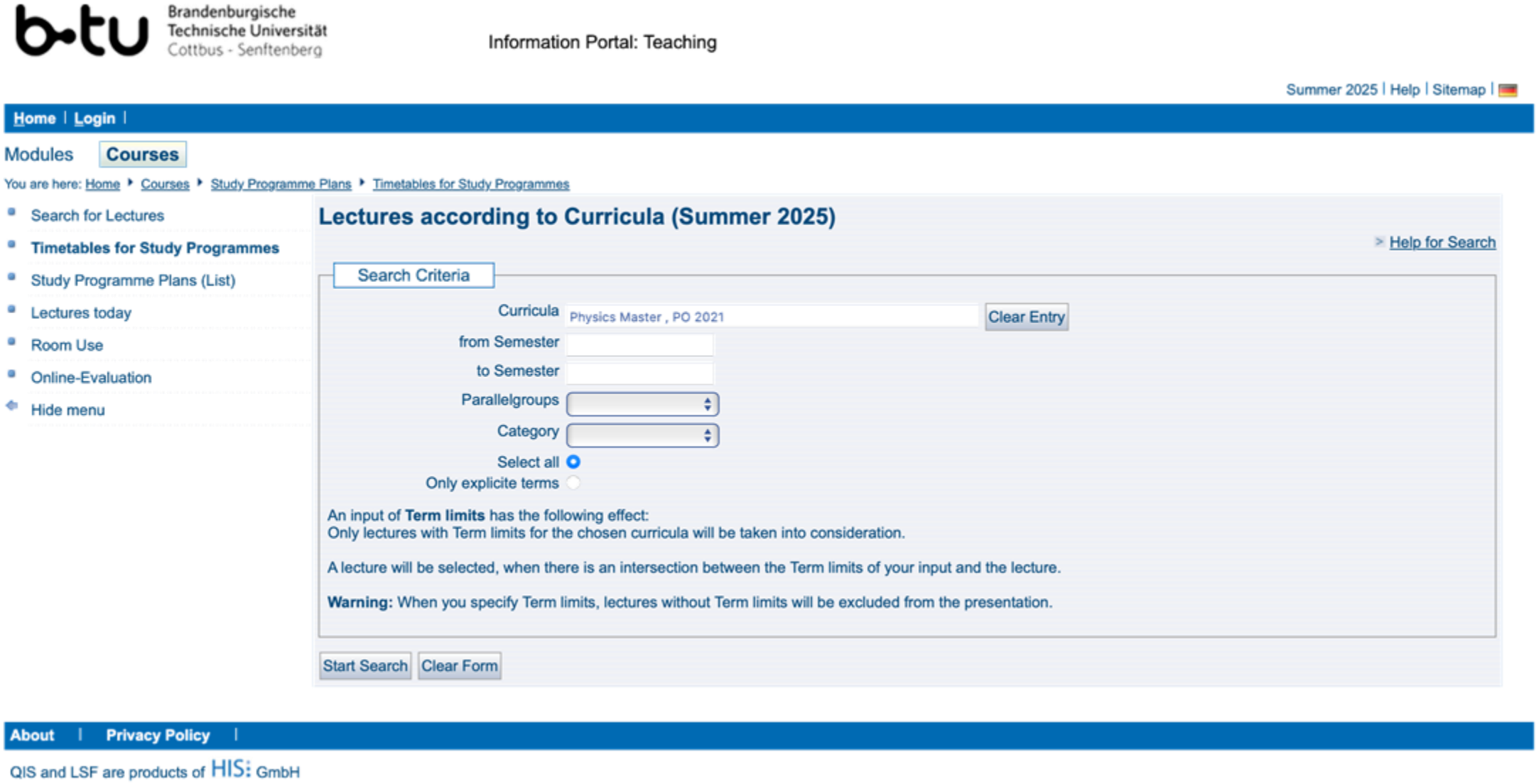
Brandenburgische Technische Universität Cottbus - Senftenberg

Specialization Phase		Research Phase	
Semester 1	*Semester 2*	*Semester 3*	*Semester 4*
• Advanced Seminar (6 LP) • Specialization (18 LP) • Minor Subject (6 LP)	• Advanced Seminar (6 LP) • Specialization (12 LP) • Minor Subject (6 LP) • General Studies (6 LP)	Research Project (30 LP) *(Preparation of the research project for the master thesis)*	Master Thesis (30 LP)
30 CP	*30 CP*	*30 CP*	*30 CP*

International Master Course Physics: Essential Infos

Brandenburgische Technische Universität Cottbus - Senftenberg

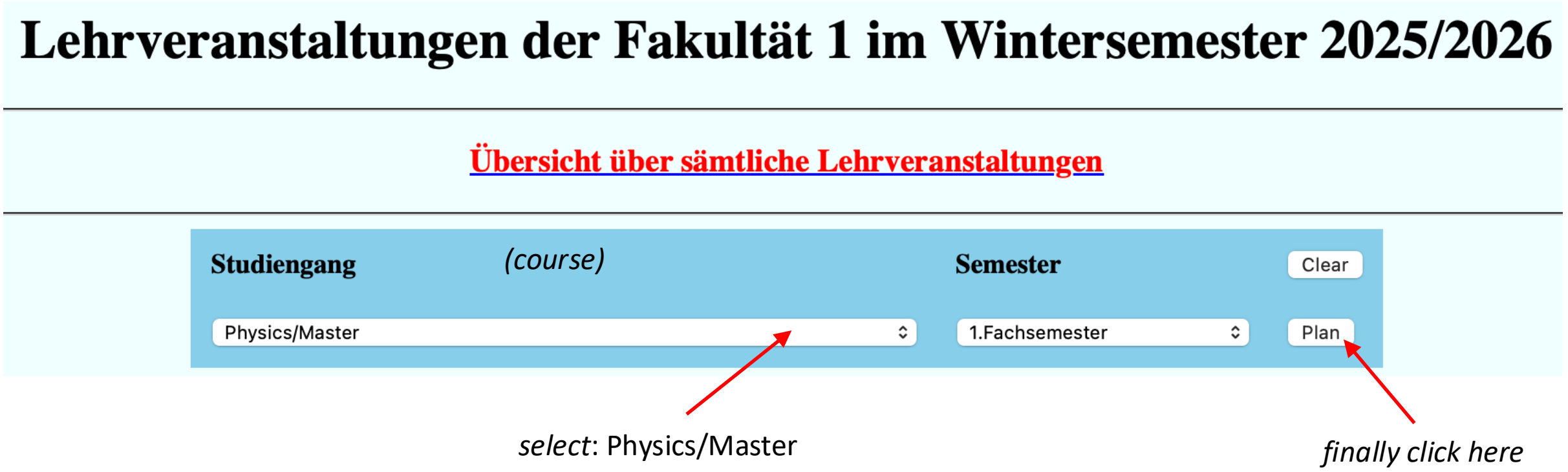
Timetable:



International Master Course Physics: Essential Infos

Timetable (complete): https://www.math.b-tu.de/perl-lp/planung_ws25.cgi

Lectures of faculty 1 within the winter term 2025/2026



International Master Course Physics: Essential Infos

Brandenburgische Technische Universität Cottbus - Senftenberg

Stundenplan Wintersemester 2025/2026 : Physics/Master, Masterstudium

Stand: 21. September 2025

Zeit	Montag	Dienstag	Mittwoch	Donnerstag	Freitag
1. Block					**Functional material systems for micro sensors and actuators** SE, , H.Schenk
2. Block	**1.Introduction to Semiconductor Physics** VL, LG10/212, Wulf **2.Dimensional Analysis and Experimentation** VL, AZFD/2.32, Harlander	**1.Data exploration and system management using artificial intelligence/machine learning** VL, VG1C/0.03, I.Jablonski **2.Advanced Seminar Experimental Physics** SE, LG1A/121, R.Sanchez **3.Thermal Process Engineering and Equilibrium Thermodynamics** VL, LG4B/3.20, F.Mauß **4.Waves and Instabilities in Fluids** VL, HG0.18, R.Borcia	**1.Scientific Computing** VL, HG3.45, M.Breuß **2.Solid State Theory** VL, LG10/212, Seibold	**Nanocatalysis - Fundamentals and Applications** UE, LG1A/121, C.Morales Sanchez	**1.Mathematical Optimization Techniques and Applications** UE, LG1A/304, J.Schmidt **2.Scientific Computing** VL, HG0.18, Overmann **3.Fundamentals in Power Electronics** PR, FZ3E/1.23, Möllenkamp
3. Block	**1.Dimensional Analysis and Experimentation** UE, AZFD/2.32, Harlander **2.Wireless Sensor Networks: Concepts, Protocolls and Applications** VL/UE, ZHG/SR1, K.Piotrowski, J.Mai **3.Introduction to Semiconductor Physics** UE, HG2.45, Wulf	**1.Fundamentals in Power Electronics** VL/SE, LG3A/324, Möllenkamp **2.Experiments in Aerodynamics and fluid mechanics** VL, AZFD/3.22, Engbers, Hasanuzzaman **3.Nanocatalysis - Fundamentals and Applications** VL, LG1A/121, C.Morales Sanchez **4.Light and Matter: Introduction** VL, HG0.19, I.Fischer **5.Data exploration and system management using artificial intelligence/machine learning** PR, VG1C/0.03, I.Jablonski	**1.Physics of Modern Devices** VL, LG1A/304, L.Augel **2.Nanocatalysis - Fundamentals and Applications** VL, LG1A/121, R.Sanchez **3.Computational Quantum Physics** VL, ZHG/SR1, D.Gorelova	**1.Fundamentals in Power Electronics** PR, FZ3E/1.23, Möllenkamp **2.Mathematical Optimization Techniques and Applications** VL, , Fügenschuh **3.Light and Matter: Introduction** UE, HG0.19, I.Fischer **4.Semiconductor Physics for Applied Quantum Structures** VL, LG1A/121, Wenger **5.Waves and Instabilities in Fluids** UE, LG10/212, I.Borcia	**1.Fundamentals in Power Electronics** PR, FZ3E/1.23, Möllenkamp **2.Mathematical Optimization Techniques and Applications** VL, LG1A/HS2, Fügenschuh (A-Woche) **3.Scientific Computing** UE/PR, HG3.35, T.Starke
4. Block	**1.Thermal Process Engineering and Equilibrium Thermodynamics** UE, LG4B/B3.22, **2.Applied Spectroscopy** SE, HG0.18, I.Flege **3.Journal Club Light and Matter: Introduction** SE, LG10/212, I.Fischer **4.Wireless Sensor Networks: Concepts, Protocolls and Applications** VL/UE, ZHG/HSB, K.Piotrowski, J.Mai	**Fundamentals in Power Electronics** VL/SE, LG3A/324, Möllenkamp	**1.Semiconductor Technology** VL/UE, HG0.20, Kahmen **2.Experiments in Aerodynamics and fluid mechanics** UE, AZFD/2.32, Hasanuzzaman **3.Computational Quantum Physics** UE, HG0.18, D.Gorelova **4.Solid State Theory** UE, LG10/212, D.Grigorovich	**1.Fundamentals in Power Electronics** PR, FZ3E/1.23, Möllenkamp **2.Image based measurement techniques for aerodynamics** UE/PR, AZFD/3.22, A.Schröder (B-Woche) **3.Image based measurement techniques for aerodynamics** VL, AZFD/3.22, A.Schröder (A-Woche) **4.Antennas I** VL, HG0.18, Ndip **5.Nano-Photonics** SE, HG0.19, I.Fischer	**Antennas I** UE, LG3A/016, R.Stöcker
5. Block	**Applied Spectroscopy** SE, HG0.18, I.Flege	**1.Thermal Process Engineering and Equilibrium Thermodynamics** VL, LG3A/406, F.Mauß **2.Fundamentals in Power Electronics** VL/SE, LG3A/324, Möllenkamp (A-Woche)	**1.Experiments in Aerodynamics and fluid mechanics** UE, AZFD/2.32, Hasanuzzaman **2.Micro Systems** UE, LG1A/304, H.Schenk (B-Woche) **3.Solid State Theory** UE, LG10/212, M.Radinov **4.Micro Systems** VL, LG1A/304, H.Schenk (A-Woche)	**1.Laboratory Techniques and Metrology** VL, HG2.44, Verma **2.Image based measurement techniques for aerodynamics** VL, AZFD/3.22, A.Schröder (A-Woche) **3.Image based measurement techniques for aerodynamics** UE/PR, AZFD/3.22, A.Schröder (B-Woche) **4.Physikalisches Kolloquium** KOL, ZHG/SR1, I.Flege **5.Fundamentals in Power Electronics** PR, FZ3E/1.23, Möllenkamp **6.Renewable Energy Technologies for Power Supply** VL, GH, Röntzsch	
6. Block			**1.Micro Systems** VL, LG1A/304, H.Schenk (A-Woche) **2.CFD Seminar** SE, LG3A/324, H.Schmidt	**1.Physics of Modern Devices** UE, ZHG/SR3, L.Augel **2.Renewable Energy Technologies for Power Supply** VL, GH, Röntzsch **3.Laboratory Techniques and Metrology** UE, HG2.44, Verma	

Blockveranstaltungen/Veranstaltungen nach Vereinbarung:

150192 Seibold: Solid State Theory

152111 Wenger: Semiconductor Physics for Applied Quantum Structures

International Master Course Physics: Essential Infos

Brandenburgische Technische Universität Cottbus - Senftenberg

When and how to register for the modules?

- Register online within the first 3 weeks of the semester (13.10.25 – 02.11.25):

  https://www.b-tu.de/en/students/admissions-registrars-office/online-portal

- You may cancel the registration up to one week before the begin of the examination period

  Exception: Modules with continuous assessment (e.g. seminars) can only be cancelled within the first 3 weeks of the semester

  see also: Semester Timetable

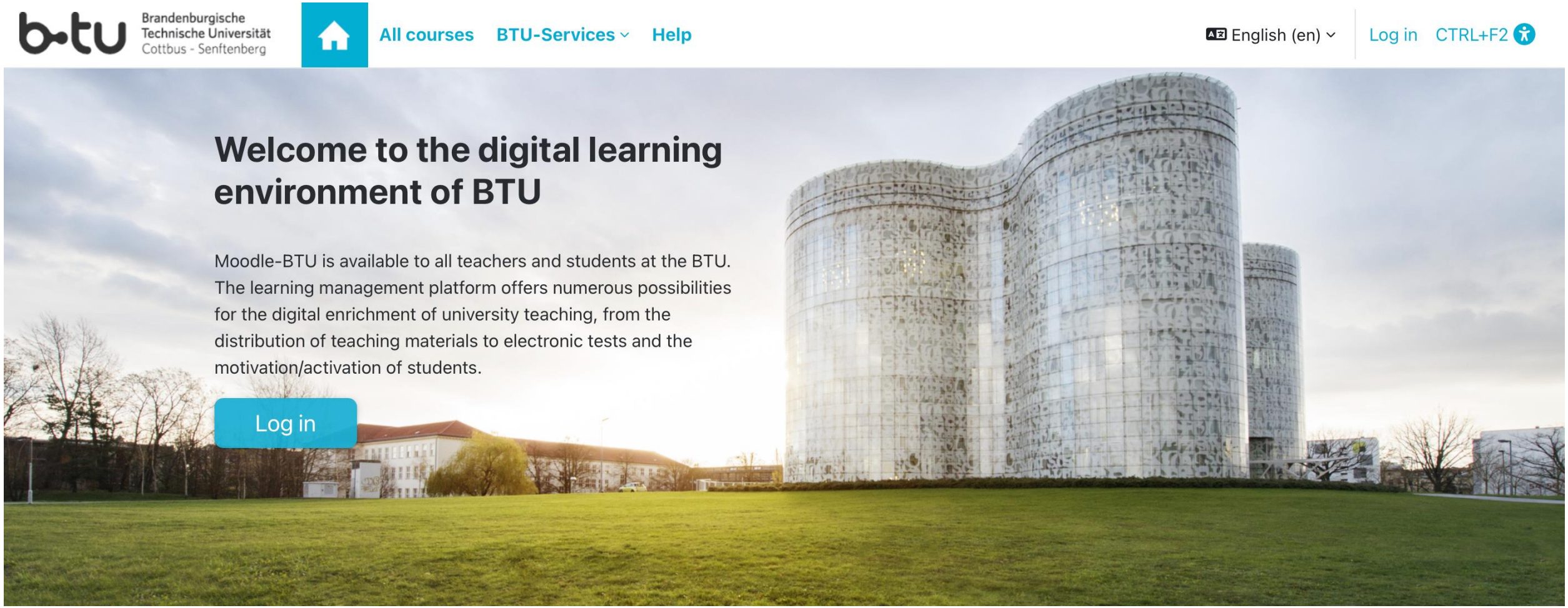
Entrance to the Online-Portal

Please choose the entrance to the Online-Portal based on your enrolment number

Enrolment number 7-digit *Example 36 33 887*	Enrolment number 6-digit *Example 36 30 17*
Entrance to the Online-Portal	Entrance to the Online-Portal

International Master Course Physics: Essential Infos

E-learning-platform moodle https://www.b-tu.de/elearning/btu/?lang=en



International Master Course Physics: Advanced seminar

Brandenburgische Technische Universität Cottbus - Senftenberg

Specialization Phase		Research Phase	
Semester 1	*Semester 2*	*Semester 3*	*Semester 4*
• Advanced Seminar (6 LP) • Specialization (18 LP) • Minor Subject (6 LP)	• Advanced Seminar (6 LP) • Specialization (12 LP) • Minor Subject (6 LP) • General Studies (6 LP)	Research Project (30 LP) *(Preparation of the research project for the master thesis)*	Master Thesis (30 LP)
30 CP	*30 CP*	*30 CP*	*30 CP*

International Master Course Physics: Advanced seminar

Brandenburgische Technische Universität Cottbus - Senftenberg

Two advanced seminars (6 CP each): Experimental Physics **and** Theoretical Physics

This semester:

Responsible:

Experimental Physics I:

Topic: tba

Tuesday, 09:15 – 10:45 LG1A/121

Dr. R. Sanchez (*sanchez@b-tu.de*)

Experimental Physics II:

Topic: Nano-Photonics

Thursday, 13:45 - 15:15 HG 0.19

Prof. I. Fischer (*inga.fischer@b-tu.de)*

Experimental Physics III:

Topic: Functional material systems for micro sensors and actuators

Time: Friday, 07:30 -09:00; online only

Prof. H. Schenk
(harald.schenk@ipms.fraunhofer.de)

contact the responsibles by email for further information

International Master Course Physics: Specialization

Brandenburgische Technische Universität Cottbus - Senftenberg

Specialization Phase		Research Phase	
Semester 1	*Semester 2*	*Semester 3*	*Semester 4*
• Advanced Seminar (6 LP) • Specialization (18 LP) • Minor Subject (6 LP)	• Advanced Seminar (6 LP) • Specialization (12 LP) • Minor Subject (6 LP) • General Studies (6 LP)	Research Project (30 LP) *(Preparation of the research project for the master thesis)*	Master Thesis (30 LP)
30 CP	*30 CP*	*30 CP*	*30 CP*

International Master Course Physics: Specialization

Brandenburgische Technische Universität Cottbus - Senftenberg

- Choose specialization modules with an amount of 18+12 CP‘s
- Specialization modules have an experimental (and/or) theoretical focus
- Choose at least one from each category.

This semester:

Introduction to Semiconductor Physics — Dr. U. Wulf (ulrich.wulf@b-tu.de)
Focus: exp./theo.
Lecture: Monday 09:15-10:45, LG 10/212
Exercise: Monday 11:30 - 13:00, HG 2.45

Solid State Theory — Prof. G. Seibold (seibold@b-tu.de)
Focus: theo.
Lecture: Wednesday 09:15 - 10:45, LG10/212
Exercise: Wednesday 13:45-15:15, LG10/212
Seminar on announcement

International Master Course Physics: Specialization

Brandenburgische Technische Universität Cottbus - Senftenberg

Semiconductor Technology

Prof. G. Kahmen (kahmen@ihp-microelectronics.com)

Focus: exp.
Lecture/Exercise: Wednesday 13:45 – 14:15, HG0.20
please contact Prof. Kahmen for further information

Micro Systems

Prof. H. Schenk
(harald.schenk@ipms.fraunhofer.de)

Focus: exp.
Lecture: Wednesday (A-weeks)
15:30 – 17:00, 17:30 – 19:00, HG 0.20
Exercise: Wednesday (B-weeks)
15:30–17:00, HG 0.20

International Master Course Physics: Specialization

Brandenburgische Technische Universität Cottbus - Senftenberg

Light and Matter: Introduction
Focus: exp.
Lecture: Tuesday 11:30-13:00, HG 0.19
Exercise: Thursday 11:30–13:00, HG 0.19

Prof. I. Fischer (inga.fischer@b-tu.de)

Physics of Modern Devices
Focus: exp.
Lecture: Wednesday 11:30 - 13:00, LG 1A/304
Exercise: Thursday 17:30–19:00, ZHG/SR3

Dr. L. Augel (lion.augel@b-tu.de)

International Master Course Physics: Specialization

Brandenburgische Technische Universität Cottbus - Senftenberg

Nanocatalysis – Fundamentals and Applications
Focus: exp.
Lecture: Tuesday 11:30-13:00, LG 1A/121
Wednesday 11:30-13:00, LG 1A/121
Exercises: Thursday 09:15-10:45, LG 1A/121

Dr. C. Moralez-Sanchez (carlos.moralesSanchez@b-tu.de)
Dr. R. Sanchez (sanchez@b-tu.de)

Semiconductor Physics for Applied Quantum Structures
Focus: exp.
Lecture: Thursday 11:30 – 13:00, LG 1A/121
Block course with lab
please contact Prof. Wenger for information about times

Prof. C. Wenger (wenger@ihp-microelectronics.com)

International Master Course Physics: Specialization

Brandenburgische Technische Universität Cottbus - Senftenberg

[Waves and Instabilities in Fluids]
Focus: theo.
Lecture: Tuesday 09:15-10:45, HG 0.18
Exercises: Thursday 11:30-13:00, LG 10/212

Dr. R. Borcia (borciar@b-tu.de)

[Computational Quantum Physics]
Focus: theo.
Lecture: Wednesday 11:30 – 13:00, HG 0.18
Exercises: Wednesday 13:45 – 15:15, HG 0.18

Prof. D. Gorelova (darya.gorelova@uni-hamburg.de)

International Master Course Physics: Essential Infos

Brandenburgische Technische Universität Cottbus - Senftenberg

Specialization Phase		Research Phase	
Semester 1	*Semester 2*	*Semester 3*	*Semester 4*
• Advanced Seminar (6 LP) • Specialization (18 LP) • Minor Subject (6 LP)	• Advanced Seminar (6 LP) • Specialization (12 LP) • Minor Subject (6 LP) • General Studies (6 LP)	Research Project (30 LP) *(Preparation of the research project for the master thesis)*	Master Thesis (30 LP)
30 CP	*30 CP*	*30 CP*	*30 CP*

International Master Course Physics: Minor subject

Brandenburgische Technische Universität Cottbus - Senftenberg

Minor subject: Choose two modules within the first 2 semester or internship over 9 weeks

This semester:

Wireless sensor networks: Concepts, Protocols and Applications — Prof. K. Piotrowski (krzysztof.piotrowski@b-tu.de)

Lecture/Exercises: Monday 11:30 – 13:00, ZHG SR 1
Monday 13:45 – 15:15, ZHG HS B

Antennas I — Prof. I. Ndip (ivan.ndip@b-tu.de)

Lecture: Thursday 13:45 – 15:15, HG 0.18
Exercise: Friday 13:45 - 15:15, LG 3A/0.16

International Master Course Physics: Minor subject

Brandenburgische Technische Universität Cottbus - Senftenberg

Fundamentals in Power Electronics

Prof. G. Möhlenkamp
(georg.moehlenkamp@b-tu.de)

Lecture/Seminar: Tuesday 11:30 – 13:00, LG 3A.324
13:45 – 15:15, LG 3A.324
15:30 – 17:00 (A-weeks), LG 3A.324
Lab: Thursday 11:30 –17:00, FZ3E/1.23
Friday 09:15-13:00, FZ3E/1.23

Data exploration and system management using artificial intelligence / machine learning

Dr. hab. I. Jablonski
(ireneusz.jablonski@b-tu.de)

Lecture: Tuesday 09:15 – 10:45, VG1C/0.03
Lab: Tuesday 11:30 – 13:00, VH1C/0.03

Renewable Energy Technologies for Power Supply

Prof. Dr. L. Röntzsch
(lars.roentzsch@b-tu.de)

Lecture: Thursday 15:30 –19:00, ZHG Audimax 1

International Master Course Physics: Minor subject

Brandenburgische Technische Universität Cottbus - Senftenberg

Experiments in aerodynamics and fluid dynamics

Prof. C. Egbers
(christoph.egbers@b-tu.de)

Please check moodle for further information

Lecture: Tuesday 11:30 – 13:00, Center for Fluiddynamics, 3.22
Exercise: Wednesday 13:45 – 15:15, Center for Fluiddynamics, 3.22
15:30 – 17:00, Center for Fluiddynamics, 3.22

Thermal Process Engineering and Equilibrium Thermodynamics

Prof. F. Mauß
(FMauss@b-tu.de)

Lecture: Tuesday 09:15 –10:45, LG 4B/320
Tuesday 15:30 – 17:00, LG 3A/406
Exercise: Monday 13:45 –15:15, LG 4B/322

Functional Analysis

Prof. G. Wachsmuth
(gerd.wachsmuth@b-tu.de)

Lecture: Monday 09:15 – 10:45, HG 2.45
Wednesday 11:30 – 13:15, HG 0.17
Exercise: Friday 11:30 –13:00, HG 3.45

International Master Course Physics: Minor subject

Brandenburgische Technische Universität Cottbus - Senftenberg

Image based Measurement Techniques for Aerodynamics

Prof. A. Schröder
(andreas.schroeder@b-tu.de)

Lecture/Exercise: Thursday 13:45 – 17:00
Center for Fluiddynamics 3.22

CFD Seminar

Prof. H. Schmidt
(heiko.schmidt@b-tu.de)

Lecture: Wednesday 17:15-18:45, LG 3A 324

Dimensional Analysis and Experimentation

Prof. U. Harlander
(uwe.harlander@b-tu.de)

Lecture: Monday 09:15 –10:45, Center for Fluiddynamics 2.32
Exercise: Monday 11:30 – 13:00, Center for Fluiddynamics 2.32

International Master Course Physics: Essential Infos

Brandenburgische Technische Universität Cottbus - Senftenberg

Minor subject: can also be accomplished as 9-week internship

- Internship should be related to the field of physics
- Should be done at an institute outside the university
- Some possibilities are listed on the next pages
- If you have decided on your preferences contact the institutions via email and submit an application
- Mention in your application that you intend to do the internship within the International Physics Master at BTU.

International Master Course Physics: Essential Infos

Brandenburgische Technische Universität Cottbus - Senftenberg

Minor subject: can also be accomplished as 9-week internship

Possibilities:

IHP Frankfurt/Oder

Contact: Prof. Christian Wenger
click here for application page

DESY Zeuthen

Contact: Prof. Wolfgang Lohmann
wolfgang.lohmann@desy.de

International Master Course Physics: Essential Infos

Brandenburgische Technische Universität Cottbus - Senftenberg

Minor subject: can also be accomplished as 9-week internship

Possibilities:

Fraunhofer IPMS Dresden

Contact: Prof. Harald Schenk
harald.schenk@ipms.fraunhofer.de

IKZ Berlin

Contact: Prof. Thomas Schröder
thomas.schroeder@ikz-berlin.de

International Master Course Physics: General studies

Brandenburgische Technische Universität Cottbus - Senftenberg

Specialization Phase		Research Phase	
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30 CP	*30 CP*	*30 CP*	*30 CP*

International Master Course Physics: Essential Infos

Brandenburgische Technische Universität Cottbus - Senftenberg

In case of questions:

Student Council Physics: fsr-physik@b-tu.de

Prof. G. Seibold (seibold@b-tu.de) Phone: +49 (0)355 693006

Office: LG 10 , Room 223

International Relations Office

Enjoy!