

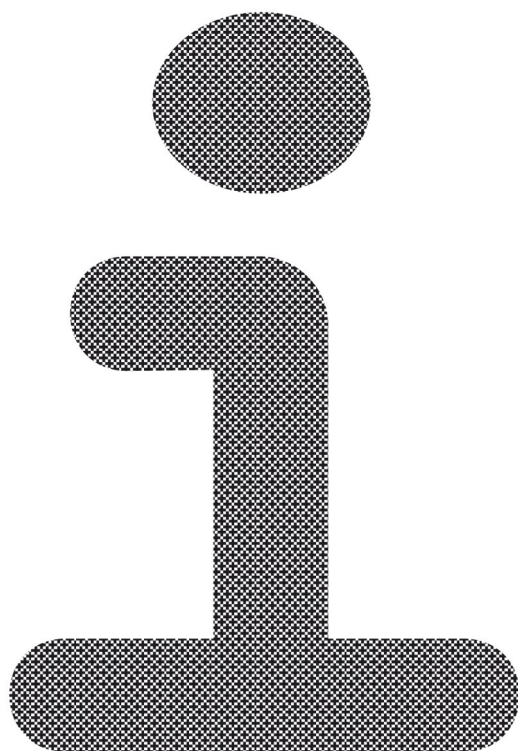
INFORMATION



PHYSICS



DUISBURG CAMPUS



1. Bachelor's Programme in Physics

2. Master's Programme in Physics

1. Physics (Bachelor's Programme)

Degree awarded

Bachelor of Science (B.Sc.)

After completing the Bachelor's Programme leading to the Bachelor of Science (B.Sc.) degree, a student has the option of entering the Master's Programme leading to the Master of Science (M.Sc.) degree.

Faculty/Campus

Faculty of Physics at the Duisburg Campus

Beginning of program

Winter semester

Standard period of study

6 semesters

Admission requirements

General higher education entrance qualification (*Abitur*) or a subject-restricted higher education entrance qualification in combination with an aptitude test or admissions examination (See the Examination Regulations).

Special requirements for registration

None

Admission

Admission to this programme is not restricted. A student can register within the specified registration period at the Office for Students at the Duisburg Campus.

Students from non-EU countries can apply to the International Office at the Duisburg Campus. Starting in May or June, they can obtain up-to-date information on admission procedures from the Office for Students or the Office for Academic Guidance and Career Service (ABZ).

Preparatory courses

Although these courses are not mandatory, students are urged to take them to brush up their knowledge of physics and mathematics before the academic year starts. www.uni-due.de/erstsemester/vorkurse.shtml

Knowledge of foreign languages

Students are expected to acquire knowledge of technical English during their studies.

First-semester orientation events

In the week before courses start, orientation events are held to give first-semester students important information of both a general and specific nature before they begin their studies. Students can obtain a schedule of these orientation events at the time of registration or download a schedule of events from the Internet at: www.uni-due.de/erstsemester/orientierungsphasen/.

Internships in industry

See the Examination Regulations and Module Handbook.

Description of the programme

The academic programme in physics consists of the consecutive 'building blocks' of the Bachelor's Programme and the more research-oriented Master's Programme. In these programmes, which satisfy international requirements and take account of the ongoing changes in the profession, students acquire professional knowledge and methodology enabling them to apply and critically evaluate scientific findings and take responsible action. In particular, these programmes convey in-depth knowledge of experimental and theoretical physics.

Curriculum

1st year

- Introduction to Scientific Methods
- Introductory Physics I (Lectures on Experimental Physics)
- Mathematics for Physicists I and II
- Basic internship I
- Key qualifications and *Studium Liberales*

2nd year

- Theoretical Physics I (Mechanics) and II (Quantum Mechanics)
- Introductory Physics II (Experimental Atomic and Quantum Physics)
- Mathematics for Physicists III
- Basic internship II
- Key qualifications and *Studium Liberales*

3rd year

- Theoretical Physics III (Electrodynamics) and Optional IV (Statistical Physics)

- Introductory Physics III (Introduction to Solid State Physics, Nuclear and Particle Physics, Cooperative Phenomena)
- Courses providing more in-depth knowledge of specific areas of physics (Thin-layer Technology, Surface Physics, Linear and Non-linear Optics, Physics of Semiconductors, Atomic and Molecular Physics, Nanomagnetism)
- Advanced internship
- Scientific methods (Measurement Methods, Computer Simulation, Project Planning)
- Key qualifications (Project Planning and Presentation)
- B. Sc. dissertation

Tests & examinations/ECTS credits

- Written and oral continuous assessment tests
- Total: 180 credits
- B.Sc. dissertation: 12 credits

Subject combinations

None offered.

A student can obtain a 'Double B.Sc. Degree' by demonstrating that he/she has studied for a certain period of time at a Chinese university.

Fields of activity/job market

Professional physicists are expected to be flexible, scientifically unbiased and able to venture independently into new areas of work. Physicists find work at many different locations, e.g.:

- research and development laboratories in industry or sales
- large-scale research facilities such as those available at the Max Planck and Fraunhofer institutes
- government institutes
- universities and other institutions of higher learning
- environmental institutes
- banks, insurance companies and corporate consulting firms.

Labour market data predict a shortage of qualified physicists in the next few years. A saying popular among physicists is that "There are really no unemployed physicists under the age of 35".

Further information

Further information can be found in the information system on courses of study and the labour market (isa) <http://www.uni-essen.de/isa>

2. Physics (Master's Programme)

Degree awarded

Master of Science (M.Sc.)

Faculty/Campus

Faculty of Physics at the Duisburg Campus

Beginning of program

Winter semester

Standard period of study

4 semesters

Admission requirements

In general applicants must have completed a Bachelor's Programme in physics or a programme in a natural or engineering science devoting sufficient attention to physics with a grade of at least 3.0. The Examination Committee will decide on exceptions; for details see the Examination Regulations.

Special admission requirements

None (see the Examination Regulations).

Admission

Admission to this programme is not restricted. A student can register within the specified registration period at the Office for Students at the Duisburg Campus.

Students from non-EU countries can apply to the International Office at the Duisburg Campus. They can obtain information from the Dean of Students (studiendekan@physik.uni-due.de).

Knowledge of foreign languages

Knowledge of English is advisable.

Internships during the semester

See the Curriculum.

Description of the programme

In the Master's Programme students acquire professional knowledge and methodology enabling them to apply and critically evaluate scientific findings and take responsible action. This programme satisfies international requirements and takes account of the ongoing changes in the profession. In particular, it conveys in-depth knowledge of experimental and theoretical physics.

Students can take courses offering more in-depth information on various areas of physics such as nanostructure physics (semiconductors, metals, oxides), optics, surface physics, special research areas (e.g. 'Computer-assisted Material and Environmental Physics' and 'Complex Dynamics, Phase Transitions and Critical Phenomena of Theoretical Physics') or Transport Physics.

Curriculum

1st year

- Experimental Physics (Solid State Physics)
- Theoretical Physics (Statistical Physics—for students who have not already studied this subject during the Bachelor's Programme, multiparticle physics)
- Courses offering in-depth knowledge of specific areas of physics (Surface Physics, Laser Physics, Non-linear Optics, Nanomagnetism, Physics of Semiconductors, Atomic and Molecular Physics, Thin-layer Technology, Computer-assisted Material and Environmental Physics, Complex Dynamics, Phase Transitions and Critical Phenomena, Nanotechnology)
- Advanced internship
- Advanced seminar
- Key qualifications and *Studium Liberales*

2nd year

- research phase including M.Sc. dissertation

Examinations & tests/ECTS credits

- Written and oral continuous assessment tests
- Total: 120 credits
- M.Sc. dissertation: 60 credits

Combinations of subjects

None offered.

A student can obtain a 'Double M.Sc. Degree' by demonstrating that he/she has studied for a certain period of time at a Chinese university.

Fields of activity/job market

Professional physicists are expected to be flexible, scientifically unbiased and able to self-reliantly venture into new areas of work. Physicists find work at many different locations, e.g.:

- research and development laboratories in industry or in sales
- large-scale research facilities such as those available at the Max Planck and Fraunhofer institutes
- government institutes

- universities and other institutions of higher learning
- environmental institutes
- banks, insurance companies and corporate consulting firms.

Further information can be found in the information system on courses of study and the labour market (isa) <http://www.uni-essen.de/isa>

Additional Information

Academic guidance (by teaching staff)

Prof. Dr. Michael Farle

Room ME 347, Tel.: +49 (0) 203 379 2075 + 2382

studiendekan@physik.uni-due.de

Office hours: by appointment

Prof. Dr. Dietrich Wolf

Room MC 374, Tel.: +49 (0) 203 379 3327

dietrich.wolf@uni-due.de

Office hours: by appointment

Dr. Anastasia Reiners-Logothetidou

Room MC 251, Tel.: +49 (0) 203 379 2258 + 2230

dekanat@physik.uni-duisburg-essen.de

Office hours: by appointment

Student Advisory Committee

Student Advisory Committee in the Faculty of Physics

Room MC 126, Tel.: +49 (0) 203 379 2191

fsr@eddy.uni-duisburg.de

Office hours: by appointment

Information material

The Examination Regulations and Module Handbook will soon be available at the Office for Academic Guidance and Career Service (ABZ) at the Duisburg Campus and in the Internet:

<http://www.uni-due.de/physik/>

Academic programmes in related areas

Duisburg Campus

- Nanoengineering, Bachelor's and Master's Programmes

Essen Campus

- Physics for schools, teaching degree programmes leading to the First State Exam for teachers at *Hauptschulen* (lower secondary schools), *Realschulen* (intermediate secondary schools), *Gesamtschulen* (comprehensive secondary schools) *Gymnasien* (grammar schools) and *Berufskollegs* (educational

institutions offering a wide range of school-leaving certificates and vocational qualifications).

- Public Transport Management, Master's Programme for students with a full-time job

Office for Academic Guidance and Career Service (ABZ)

The ABZ offers a coordinated information and guidance programme covering all questions related to choice of course of study, academic studies, and career planning. More information is available at www.uni-due.de/abz

Academic Guidance Office at the Duisburg Campus

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| Address for visitors | Geibelstr. 41 Bldg. SG 166-168, 181-183, 188, 189 |
| Personal counselling without an appointment | Room SG 055 Mon 02.00-04.00 p.m. Tues, Th, Fri 10.00-12.00 a.m. |
| Brief information by telephone | +49 (0) 203 379 2311 Mon 10.00-12.00 a.m. Tues, Th, Fri 01.00-02.00 p.m. |
| Psychological counselling | By appointment: +49 (0) 203 379 2309 |
| Contact person for teachers and pupils | +49 (0) 203 379 3651 + 3652 |
| Fax | +49 (0) 203 379 2993 |
| E-mail | abz.studienberatung@uni-due.de |
| Internet | www.uni-due.de/abz |

International 'language partner' system—autonomous language learning with a partner

Tel. +49 (0) 203 379 3657
Office hours: Fri 10.00-12.00 a.m.
abz.sprachtandem@uni-due.de

Key qualifications 'Ready For Take-Off'

Tel. +49 (0) 203 379 3712

International Office at the Duisburg Campus

Address for visitors Geibelstr. 41, 47057 Duisburg
Rooms 051 – 053, 096, 097
in Bldg. SG

E-mail duisburg-io@uni-due.de
Internet www.uni-due.de/international

Advice for German +49 (0) 203 379 3106
students interested in

studying abroad
(applications, Tues 09.00-12.00 a.m.
scholarships, etc.) Wed 02.00-03.00 p.m.

Initial counselling and +49 (0) 203 379 2845, 2458 +
admission information 3706

for foreign applicants, +49 (0) 203 379 2459 (ISE
students and doctoral students only)

candidates: advice on
university applications, Mon 01.00-03.00 p.m.
admission, registration Tues – Fri 09.00-12.00 a.m.
and language courses Incoming Erasmus students:
Tues – Fri 09.00-11.00 a.m.

Student Services Office at the Duisburg Campus

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|---------------------------------------|---|
| Address for visitors | Lotharstr. 23-25 Foyer of the main cafeteria Bldg. MM |
| Grants & scholarships | +49 (0) 203 379 3661 Mon – Th 9.30 a.m.–2.00 p.m. Semester break: Tues + Th only |
| Student housing | +49 (0) 203 379 4560 Mon - Th 10.00 a.m.-2.00 p.m. |
| Advice on social and economic matters | +49 (0) 203 379 4169 Tues – Th 10.30 a.m.-1.30 p.m. and by appointment |
| Internet | http://studentenwerk.essen-duisburg.de |

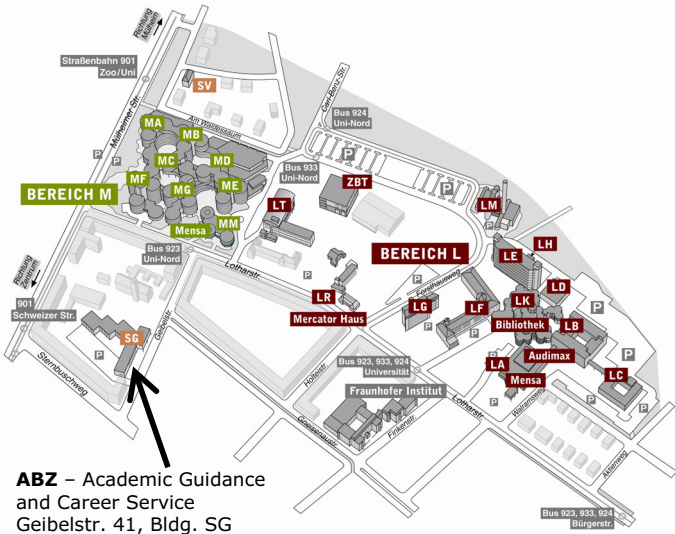
Office for Students at the Duisburg Campus

The Office for Students is responsible for registration, re-registration, leave of absence, change of course of study, deregistration, auditors & students enrolled at other universities, admission requirements, and admission.

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|---------------------|---|
| Office for visitors | Geibelstr. 41, 47057 Duisburg Rooms SG 011 – 013 |
| E-mail | studierendensekretariat- duisburg@zv.uni-due.de |
| Fax | +49 (0) 203 3794378 |
| Internet | www.uni-duisburg-essen.de/ studierendensekretariat |
| Office hours | Mon 01.00-03.00 p.m. Tues – Fri 09.00-12.00 a.m. |
| Enrolment Centres | |
| Office 1 | +49 (0) 203 379 2859 + 2520 |
| Office 2 | +49 (0) 203 379 2233 |
| Office 3 | +49 (0) 203 379 2523 |

Location Plan

University of Duisburg-Essen
Duisburg Campus, Sectors M, L and S



ABZ – Academic Guidance
and Career Service
Geibelstr. 41, Bldg. SG

Mülheimer Straße/Lotharstraße, 47057 Duisburg

How to get to the ABZ at the Duisburg Campus

(see also <http://www.uni-due.de/universitaet/plaene/>)

- By public transport:
- > From the Eastern Entrance of the Duisburg Main Railway Station (*Hbf*):
 - > Take Tram 901 in the direction of Mulheim or Bus 923 heading toward the Municipal Medical Centre (*Städtische Kliniken*).
 - > Get off at 'Schweizer Straße'.
 - > From there it is only a few minutes on foot: turn right into Sternbuschweg, and then take the first left turn into Geibelstrasse.
- By car:
- > Coming from the A3/A40 and all other directions:
 - > At the intersection 'Autobahnkreuz Kaiserberg', take the 'Kaiserberg' exit in the direction of the University/Zoo.
 - > Drive past the university parking lots. At the intersection of Forsthausstrasse and Lotharstrasse, go straight on into Holteistrasse.
 - > Turn right into Gneisenaustrasse. Stay on the Gneisenau until you see Geibelstrasse, then turn left into Geibelstrasse.
 - > Bldg. SG is on the right-hand side. There are a limited number of parking spots in the schoolyard.
 - > **Caution:** Regardless of what direction you are coming from, Geibelstrasse can be reached only via Gneisenaustrasse!

PHYSICS DUISBURG CAMPUS

ABZ
Academic Guidance and
Career Service

Campus Duisburg
Geibelstraße 41
47057 Duisburg
Tel. +49 (0) 201/379-2311
abz.studienberatung@uni-due.de

Campus Essen
Universitätsstraße 2
45141 Essen
Tel. +49 (0) 201/183-2914
abz.studienberatung@uni-due.de

www.uni-due.de/abz

UNIVERSITÄT

DUISBURG
ESSEN