INTERNATIONAL COURSE CATALOGUE

WiSe 2014/2015

Degree programmes, seminars and lectures taught in English and other foreign languages
INTERNATIONAL COURSE CATALOGUE

WiSe 2014/15

Degree programmes, seminars and lectures taught in English and other foreign languages
Dear student, dear researcher, dear guest,

this is the International Course Catalogue (ICC) for Ruhr-Universität Bochum, put together by RUBiss – RUB international student services of the International Office. The International Course Catalogue gives an overview of RUB’s classes which are taught in foreign languages. It is aimed at international students wanting to organise their semester programme, prospective students planning on studying in Bochum, or partners and guests wishing to gain a general idea of RUB’s international courses and degree programmes.

All courses are open to exchange students and students of related subjects.

It contains the following information:

1. **A compilation of seminars and lectures (Bachelor, Master and PhD) held in English or other foreign languages:**
   Many of RUB’s departments offer seminars and lectures in English or other foreign languages. These are NOT usually part of an international degree programme. The ICC provides information about the content of the classes and prerequisites for admission, as well as credit points and contact persons. It also states which courses can be accredited to the “Optionalbereich”, and which ones are especially suitable for exchange students.

2. **Additional information** on studying and researching internationally at RUB:
   RUB’s international profile, a list of international (English) Master and PhD programmes as well as double and joint degree courses, exchange programmes, RUBiss – RUB international student services, Welcome Centre for internationally mobile researchers, application and admission, contact addresses.

We hope that you will find the International Course Catalogue a helpful guide for your semester programme, and wish you every success in the new semester!

Your RUBiss – RUB international student services team
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THE RUHR-UNIVERSITÄT BOCHUM

Located in the midst of the dynamic, hospitable metropolitan area of the Ruhr, in the heart of Europe, Ruhr-Universität Bochum (RUB) with its 20 faculties is home to 5,500 employees and over 40,000 students from 130 countries. All the great scientific disciplines are united on one compact campus. RUB offers approximately 150 bachelor’s and master’s degree programmes in various combinations.

Opened in 1965 as the first new university to be established in Germany following the Second World War and also the first university in the Ruhr area, RUB is now one of Germany’s biggest universities and on its way to becoming one of the leading European universities of the 21st Century. RUB won two projects in the very competitive German Excellence Initiative in June 2012: the interdisciplinary Research School and the Cluster of Excellence RESOLV (Ruhr Explores Solvation) – Solvents as active units.

The university's greatest strength is its interdisciplinary cooperation. Interfaculty and interdisciplinary Research Departments, which are nationally and internationally networked, sharpen RUB’s profile.

What makes it all come alive, are the people who meet on campus with their thirst for knowledge, their curiosity and their commitment. They help shape the RUB and their open-mindedness makes RUB an attractive place for people from around the world: More than 5,000 international students, approx. 450 international PhD students and several hundred international researchers are studying and working at RUB. About 500 international exchange students spend time at RUB each year and just as many RUB students complete parts of their degree abroad.

Consistent internationalisation is also the focus of our future concept “Research Campus RUB”. Research at RUB is internationally linked and geared towards internationalisation: RUB has signed collaboration agreements with numerous prestigious partner universities and these collaborations are put into practice by way of the active exchange programmes and various projects which are taking place for students and researchers. RUB is a member of the Utrecht Network and further international university networks in the areas of research and teaching. It has more than 300 partner universities in the ERASMUS Programme. It is also running liaison offices in New York, Moscow and São Paulo/Rio de Janeiro with its neighbouring universities Dortmund and Duisburg-Essen as part of the University Alliance Metropolis Ruhr (UAMR).

International students, PhD students and international researchers can benefit from a number of extraordinary services:

- **RUBiss – RUB international student services** provides extensive information, support and advice for all international students.
- **Incoming and outgoing exchange students** are offered a wide range of exchange programmes with partner universities worldwide, as well as special services at RUB.
- **Research School** is the university-wide graduate school of RUB supporting all doctoral researchers on campus by training of personal and interdisciplinary skills, career guidance, personal counselling and with research-related training offered by the faculties.
- **Internationally mobile researchers** are welcomed and supported in RUB’s Welcome Centre.
SERVICE FOR INTERNATIONAL MEMBERS

RUBISS – INTERNATIONAL STUDENT SERVICES

In order to be able to study successfully, it is important that you feel comfortable, both at university and in daily life. Only then will you be able to focus on your studies. This is why "RUBiss – international student services" was established at the International Office. You will find contact persons for important issues which go beyond your academic studies, such as advice and support in social, cultural and university-related affairs, as well as support with administrative tasks and legal affairs concerning foreign nationals.

RUBiss offers:

• Support and advice on various matters
• Orientation and welcome events
• Events and excursions

We assist you in arranging your legal affairs with the foreign citizens’ office, the city of Bochum and various other officials. We will also advice you on general questions concerning your studies and living in Bochum and Germany.

Events are organised both at the beginning and during the semester. On various excursions, you will have the opportunity to become acquainted with your new surroundings, settle in and meet fellow students.

At the start of every semester, RUBiss organises orientation events for international students: Orientation Days take place in the weeks before lectures start and are open to all new international students. Participation is free of charge.

Every semester, members of staff from the International Office, accompanied by the Rector himself, welcome the new international students to RUB at the International Welcome. RUBiss as well as various university institutions introduce themselves and present their offers for international students.

The RUBiss team publishes a semester programme every semester. In it, you will find a range of different events, workshops and excursions. You can also register for our newsletter to stay informed on current events.

RUBiss, International Office
Email: RUBiss@rub.de
Internet: www.international.rub.de/rubiss
Facebook group: RUBiss – RUB international student services
EXCHANGE PROGRAMMES

RUB offers a variety of opportunities for student exchange. An exchange programme is certainly the easiest, safest and cheapest of all possibilities to go abroad. The most commonly known exchange programme is the EU’s ERASMUS. Ruhr-Universität Bochum has some 300 partner universities all over Europe. Students can spend 3 - 12 months abroad in one of the 28 EU member states, Iceland, Norway, Macedonia (FYROM), Liechtenstein and Turkey and they will be supported financially by the ERASMUS Mobility Grant.

In addition to the ERASMUS universities involved in the exchange programme, RUB closely cooperates with the following universities:

- Universidade Federal de Minas Gerais, Belo Horizonte, Brazil
- Universidade de Brasília, Brazil
- Universidade Federal do ABC, São Paulo, Brazil
- Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil
- Universidade Federal do Rio Grande do Norte, Natal, Brazil
- Universidade Federal Fluminense (UFF), Niterói, Brazil
- Universidade Federal de Juiz de Fora (UFJF), Juiz de Fora, Brazil
- Universidad Tecnológica Nacional, Argentina
- Universidad de Monterrey, Mexico
- Universidad Autónoma de Nuevo León, Monterrey, Mexico
- Universidad Autónoma Metropolitana, Mexico City, Mexico
- Benemérita Universidad Autónoma de Puebla, Mexico
- Universidad Católica del Norte, Antofagasta/Coquimbo, Chile
- Lindenwood University in St.Charles, Missouri, USA
- National Taiwan University, Taipei, Taiwan
- Ewha Womans University, Seoul, Korea
- Soongsil University, Seoul, Korea
- Sogang University, Seoul, Korea
- Kyungpook National University, Daegu, Korea
- Osaka University, Japan

The following universities offer RUB students a monthly scholarship in addition to the reimbursement of tuition fees:

- Université François Rabelais in Tours, France
- Universidad de Oviedo, Spain
- Belorussian State University Minsk, Belarus
- Tongji University in Shanghai, China

Students at all of these universities may study at RUB for one or two semesters without having to pay any tuition fees.

RUB is also a member of the Utrecht Network. Within this network, 31 European universities are working together on topics of internationalisation and exchange. The Utrecht Network has strong links with the MAUI (Mid-America Universities International) Network and AEN (Australian-European Network). The following universities are members of these networks:
a) MAUI:

<table>
<thead>
<tr>
<th>Baylor University</th>
<th>Texas State University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waco, TX</td>
<td>San Marcos, TX</td>
</tr>
<tr>
<td>Kansas State University</td>
<td>University of Missouri</td>
</tr>
<tr>
<td>Manhattan, KS</td>
<td>Kansas City, MO</td>
</tr>
<tr>
<td>Missouri University of Science &amp; Technology Rolla, MO</td>
<td>University of Missouri St. Louis, MO</td>
</tr>
<tr>
<td>Oklahoma State University Stillwater, OK</td>
<td>University of Nebraska Kearney, NE</td>
</tr>
<tr>
<td>Southern Illinois University at Carbondale, IL</td>
<td>University of Nebraska Lincoln, NE</td>
</tr>
<tr>
<td>Texas Tech University Lubbock, TX</td>
<td>University of Nebraska Omaha, NE</td>
</tr>
<tr>
<td>University of Kansas Lawrence, KS</td>
<td>University of Oklahoma Norman, OK</td>
</tr>
</tbody>
</table>

b) AEN:

| Deakin University Victoria | University of Tasmania Tasmania |
| Edith Cowan University Western Australia | University of Western Sydney New South Wales |
| Griffith University Queensland | University of Wollongong New South Wales |
| Macquarie University New South Wales | |

Student exchanges take place on a regular basis through the MAUI Utrecht Network Exchange Programme and the AEN Utrecht Network Exchange Programme. Students from all areas of study may participate (only students from the Faculty of Medicine are excluded from the MAUI and AEN Utrecht Network exchange programmes). All tuition fees at the host institution will be reimbursed.

Furthermore, many faculties run their own exchange programmes:

**English/American Studies:**
- Central Michigan University, USA

**Slavonic Studies:**
- Institute of European Cultures, Moscow, Russia
- Moscow State University of Railway Engineering, Russia
- Kursk State University, Russia
- Vologda State Pedagogical University, Russia
- Vologda State Technical University, Russia
- Belorussian State University Minsk, Belarus
- Simferopol State University, Ukraine

**Faculty of Economics:**
- Tongji University in Shanghai, China
- Nihon University in Tokyo, Japan
- East Anglia University, UK
- HSBC Business School der Peking University Shenzhen, China

**Faculty of Social Science:**
- El Colegio de la Frontera Norte, Mexico
Facility of East Asian Studies:
- Nihon University in Tokyo, Japan
- Fukushima University in Fukushima, Japan
- Keio University in Tokyo, Japan
- Okayama University in Okayama, Japan
- Mie University in Tsu, Japan
- Kwansei Gakuin University in Nishinomiya, Japan
- Kyushu University, Japan
- Niigata University, Japan

Faculty of Psychology
- Universidad Santo Tomás, Colombia

Faculty of Civil and Environmental Engineering:
- Toyohashi University of Technology in Toyohashi, Japan
- Texas A&M University in College Station, USA

Faculty of Mechanical Engineering:
- Toyohashi University of Technology in Toyohashi, Japan
- Tongji University in Shanghai, China
- Texas A&M University in College Station, USA
- Drexel University in Philadelphia, USA

Faculty of Electrical Engineering and Information Technology
- Purdue University in West Lafeyette, Indiana, USA
- Drexel University in Philadelphia, USA

Students from those universities listed above, who are interested in spending one or two semesters at RUB, should contact the International Office or their faculty at their home university to check exchange possibilities. After being nominated for an exchange programme, you are welcome to contact RUB’s Incoming Exchange Student Services.

RUB students wanting to spend part of their studies abroad are welcome to contact the Outgoing Exchange Student Services located at the International Office.

Incoming Exchange Student Services
International Office
Ruhr-Universität Bochum
Email: magdalena.rooch@uv.rub.de
       Theodoros.markakidis@uv.rub.de
Internet: www.international.rub.de/gaststudis

Outgoing Exchange Student Services
International Office
Ruhr-Universität Bochum
Email: veronika.fuckel@uv.rub.de (Europe and Latin America)
       jonna.haensel@uv.rub.de (Asia)
       uta.baier@uv.rub.de (Europe, North America and Australia)
Internet: www.international.rub.de/ausland
RUB RESEARCH SCHOOL: MORE THAN RESEARCH FOR DOCTORAL RESEARCHERS AT RUB

RUB Research School and its 20 faculties promote top-level postgraduate education in an international and interdisciplinary research environment. All enrolled doctoral researchers - from natural sciences and engineering to the life sciences and the humanities and social sciences - are members of the Research School.

Research School makes visible the research-related training offered by the faculties and research areas of RUB, which supports the individual research interests of doctoral researchers. Dedicated counselling offers, training of personal skills, career guidance and various inter- and transdisciplinary events such as Science College, Research Day and “Science goes Public” prepare doctoral researchers for their following career.

RUB Research School PLUS offers financial support for doctoral researchers who wish to internationalize their research project and broaden their scientific network around the world.

Have a look at our website [http://www.research-school.rub.de](http://www.research-school.rub.de), take advantage of your individual programme and join the community of doctoral researchers.

We cordially invite you to come with all your questions about starting or doing a Dr. or a Ph.D at RUB.

We are looking forward to seeing you soon!

Central Coordination Office
Research School
Ruhr-Universität Bochum
Dr. Ursula Justus
Email: ursula.justus@rub.de
Internet: [http://www.research-school.rub.de](http://www.research-school.rub.de)
WELCOME CENTRE FOR INTERNATIONAL RESEARCHERS

The Welcome Centre is the place to go for international researchers and their families who seek advice and support regarding their research stay at Ruhr-Universität Bochum. We offer information and services on topics such as residence formalities, health insurance or family issues, as well as helpful hints for a smooth social integration and everyday life in Germany. Welcome Centre also provides advice to hosts and faculties at RUB.

Services

- Online guide in German and English (www.rub.de/welcome-centre)
- Support in dealing with formalities and authorities
- Support in finding accommodation
- Information on family issues, German courses
- Online portal: International Researchers’ Gallery
- International Lounge

Welcome Centre Events

The Welcome Centre invites international researchers and their families to various events such as excursions throughout the region, receptions of the rectorate on a regular basis, the monthly “International Women’s Exchange” and many more.

International Lounge

Ruhr-Universität Bochum has a modern, comfortable lounge for international researchers, their families and mentors. At the lounge they have the possibility to get together to talk and work or simply to have a coffee and read an international journal. During opening hours there is always someone present at the Lounge to answer any general questions you may have.

EURAXESS

The Welcome Centre in Bochum is registered as a EURAXESS Service Centre – EURAXESS is an EU wide network providing information and advice for internationally mobile researchers.
STUDYING AT RUB

DEGREE PROGRAMMES TAUGHT IN ENGLISH

Numerous degree programmes at RUB are taught in English, many of them specialising in contemporary research topics and/or offering double and joint degrees with notable universities:

Lasers and Photonics
Faculty of Electrical Engineering and Information Technology
Degree: Master of Science (single degree)
Application deadline: 15 July (winter semester) and 15 January (summer semester)
Prerequisites: above-average Bachelor’s degree (at least 6 semesters) in Electrical Engineering, Mechanical Engineering, Physics, Chemistry or similar; very good English language skills, see programme website for further details.
Fees: RUB’s social fee approx. €270 (per semester)
Contact: Biljana Cubaleska. Phone: +49 (0)234 32-29474, email: studienberatung@ei.rub.de
More information: www.ei.rub.de/studium/lap

Master of Arts in Development Management
Institute of Development Research and Development Policy
Degree: Master of Arts (single degree)
Application deadline: Next intake: October 2014. Application Deadlines will be published on the course homepage.
Prerequisites: above-average BA or relevant degree in Political Science, Social Science, Law, Economics, Geography or any other subjects related to the planning and evaluation of development programmes and projects; career experience in a relevant field; very good English language skills, see programme website for further details.
Fees: RUB’s social fee approx. €270 (per semester)
Special feature: DAAD scholarships available; twin programme in Cape Town, S.A.
Contact: Dr. Meik Nowak. Phone: +49 (0)234 / 32-22458, Email: ieemdm@rub.de

Materials Science and Simulation MSS
Interdisciplinary Centre for Advanced Materials Simulation (ICAMS)
Degree: Master of Science (single degree)
Application deadline: see www.icams.de/content/masters-course-mss/application-and-admission
Prerequisites: Bachelor’s degree (B. Sc.) or comparable degree in one of the following or related disciplines: Materials Science, Mechanical Engineering, Physics, Civil and Environmental Engineering, Electrical Engineering, Chemical Engineering, Power Engineering, Chemistry, Nanotechnology, Mathematics, Computer Sciences or Astronomy; very good English language skills, see programme website for further details.
Fees: RUB’s social fee approx. €270 (per semester)
Contact: Prof. Dr. rer. nat Alexander Hartmaier. Phone: +49 (0)234/32-29314, email: mss@icams.rub.de
More information: www.icams.de/mss
Molecular and Developmental Stem Cell Biology
Faculty of Medicine
Degree: Master of Science (single degree)
Application deadline: 15 July
Prerequisites: top Bachelor's degree in the Life Sciences (e.g. B.Sc. in Biology, Microbiology, Biomedicine, Molecular Biology) or a state examination/Master's in a medical subject; proof of good basic mathematical skills, very good English language skills, see programme website for further details.
Fees: RUB's social fee approx. €270 (per semester)
Contact: Prof. Dr. Brand-Saberi. Phone: +49 (0)234 32-24556, email: iSTEM@rub.de
More information: www.rub.de/istem

Master of Science in Physics
Faculty of Physics and Astronomy
Degree: Master of Science (single degree)
Application deadline: 15 July (winter semester), 15 January (summer semester)
Prerequisites: German or equivalent Bachelor of Science in Physics or a related field (e.g.: mathematics, engineering or natural sciences); very good English language skills, see programme website for further details. For further details on admission requirements please contact the counsellor (see contact).
Fees: RUB’s social fee approx. €270 (per semester)
Contact: Dr. Ivonne Möller: +49 (0)234 / 32-29105, email: studienberater_mp@physik.rub.de
More information: www.physik.ruhr-uni-bochum.de/studium/studiengaenge/master-of-science.html

Molecular Sciences (iMOS)
Faculty of Chemistry and Biochemistry
Degree: Master of Science (single degree)
Application deadline: 15 July. The course programs starts in winter semester (october) each year.
Prerequisites: A B.Sc. Degree or international equivalent with an average mark better than 2.0 in Chemistry, Physics, Biochemistry, Engineering or a related interdisciplinary subject; very good English language skills, see programme website for further details. Fees: RUB’s social fee approx. €270 (per semester)
Contact: Dr. Gerhard Schwaab. Phone: +49 (0)234 / 32-24256, email: imos@rub.de
More information: www.rub.de/imos

Computational Engineering
Faculty of Civil and Environmental Engineering
Degree: Master of Science (single degree)
Application deadline: international students 1 May, national students 15 September
Prerequisites: above-average Bachelor's (or comparable) degree in Civil Engineering, Mechanical Engineering or a related engineering field. Students who have a Bachelor's degree in Computer
Science will not be accepted. Very good English language skills, see programme website for further details.

**Fees**: RUB’s social fee approx. €270 (per semester)

**Special feature**: twin programme at the Vietnamese-German University in Ho Chi Minh City

**Contact**: Dipl.-Ing. Jörg Sahlmen. Phone: +49 (0)234 / 32-22103, email: comp-eng@rub.de

**More information**: http://compeng.rub.de

### Geosciences – Resources and Energy

Faculty of Geosciences

**Degree**: Master of Science (single degree)

**Application deadline**: 15 July

**Prerequisites**: B.Sc. in Geosciences or related Natural Sciences, German and very good English language skills (see programme website for further details) and sufficient physical fitness to perform fieldwork

**Fees**: RUB’s social fee approx. €270 (per semester)

**Special feature**: prepares students for subsequent employment in the industry (mainly hydrocarbon industry)

**Contact**: Prof. Dr. Adrian Immenhauser. Phone: +49 (0)234 / 32-28250, email: adrian.immenhauser@rub.de

**More information**: http://www.gmg.rub.de/studium/studgang

### Master of Science in Biochemistry

Faculty of Chemistry and Biochemistry

**Degree**: Master of Science (single degree)

**Application deadline**: 15 July

**Prerequisites**: above-average German or equivalent Bachelor of Science in Biochemistry or a related field; very good English language skills, see programme website for further details.

**Fees**: RUB’s social fee approx. €270 (per semester)

**Contact**: Prof. Dr. Irmgard D. Dietzel-Meyer. Phone: +49 (0)234 / 32-25803, email: bc-schwerpunkte@rub.de

**More information**: www.chemie.rub.de/studium/master/biochemie

### Master of Science in Chemistry

Faculty of Chemistry and Biochemistry

**Degree**: Master of Science (single degree)

**Application deadline**: 15 July

**Prerequisites**: above-average German or equivalent Bachelor of Science in Chemistry or a related field; very good English language skills, see programme website for further details.

**Fees**: RUB’s social fee approx. €270 (per semester)

**Contact**: Gundula Talbot: +49 (0)234 / 32-26908, email: gundula.talbot@rub.de.

**More information**: www.chemie.ruhr-uni-bochum.de/studium/master/chemie
Master of Science in Economics
Faculty of Management and Economics
Degree: Master of Science (single degree)
Application deadline: 15 July (winter semester), 15 January (summer semester)
Prerequisites: A bachelor’s degree in economics or a related discipline (business, statistics, mathematics, political science, international relations, etc.) with a regular period of study of at least six semesters (180 ECTS credit points). As the program is taught entirely in English, applicants need to have very good English language skills. For further details on admission requirements please visit the program’s website or contact the program coordinator.
Fees: RUB’s social fee approx. €270 (per semester)
Contact: Dipl.-Ök. Michèle Lorraine de Groot, econmaster@rub.de
More information: www.rub.de/econmaster/Course catalogue: rub.de/econmaster/download.html

Master of Cognitive Science
Faculty of Psychology
Degree: Master of Science (single degree)
Application deadline: 15 July
Prerequisites: excellent Bachelor’s degree in philosophy, psychology, neuroscience, mathematics, biology, computer science or linguistics and similar subjects, extremely high motivation to study; very good English language skills, see programme website for further details.
Fees: RUB’s social fee approx. €270 (per semester)
Contact: Dr. Andreas Utsch, Tel.: 0234 / 32-27895, email: andreas.utsch@rub.de.

Ethics – Economics, Law and Politics
Faculty of philosophy, law, economics and social science
Degree: Master of Science (single degree)
Application deadline: 15 July
Prerequisites: an interdisciplinary frame of mind, graduation in Philosophy, Political Science, Law, Economics; very good English language skills, see programme website for further details.
Fees: RUB’s social fee approx. €270 (per semester)
Contact: Dr. Simone Heinemann: Tel.: 0234 / 32-24733, email: Simone.Heinemann@rub.de.
DOUBLE AND JOINT DEGREES

Several double and joint degree programmes provide the opportunity to obtain the degree of a partner university alongside the RUB-degree. For a list of all double/joint degree programmes including recent changes please check www.international.rub.de/profil/lehre/doppelabschluss.

Double Master's Degree Germanistik with Universiteit van Amsterdam

Intercultural Master programme taught in German, starting in August. Students spent the first two semesters together in Amsterdam and the third and fourth semester in Bochum.

Contact:
Name: Prof. Bernd Bastert
Email: bernd.bastert@rub.de
www.germanistik.rub.de/ambo/

Name: Philip Dorok
Email: Philipp.Dorok@rub.de

Double Master's Degree “Comparative Literature” with Università di Bergamo

Students will spend the first semester in Bochum, the second and the third semester in Bergamo and the last (fourth) semester again in Bochum. Upon successful completion of the studies, they will be awarded a Master’s degree of both RUB and Università di Bergamo.

Contact:
Name: Dr. Peter Goßens
Email: peter.gossens@rub.de

Double Master’s Degree Development Management with University of the Western Cape, Capetown

International Master programme taught in English. Well performing and committed students who register for the MA in Development Management of Ruhr University Bochum can obtain a second degree of our partner, the University of the Western Cape (UWC), South Africa.

Contact:
Name: Dr. Gabriele Baecker
Email: gabriele.baecker@rub.de
www.development-research.org/madm.html

Name: Dr. Meik Novak
Email: Meik.Nowak@rub.de

Joint Master’s Degree in Gender Studies with the University of Graz

Double degree "Master of Arts" is awarded, a full academic degree in both participating countries. The degree course focuses on an international, mainly European, perspective on Gender Studies.

Contact:
Name: Maximiliane Brand
Email: GenderStudies@rub.de

Double Master’s Degree "Russian Culture" with RGGU in Moscow

Students of (Russian) Culture at the RGGU and at RUB obtain a Master degree of the RUB and of the RGGU after successfully completing their studies.

Contact:
Name: Dr. Klaus Waschik
Email: Klaus.waschik@rub.de
Joint European Master’s Programme in International Humanitarian Action (NOHA)
Institute for International Law of Peace and Armed Conflict

**Degree:** Master of Arts (joint degree)

**Application deadline:** 15 March

**Prerequisites:** Master’s degree (or equivalent) in International Relations, History, Law, Medicine, Psychology, Sociology, Anthropology, Economics, Management, Geography, Spatial Sciences or related fields

**Fees:** participation costs €12,600 for non-European students; €8,400 for European students (one-off payment), RUB’s social fee approx. €270 (per semester)

**Special feature:** Erasmus Mundus Programme

**Contact:** Prof. Dr. Hans-Joachim Heintze  
Email: Hans-Joachim.Heintze@rub.de

**More information:** [http://www.ruhr-uni-bochum.de/ifhv](http://www.ruhr-uni-bochum.de/ifhv)

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Double Master’s Degree in Management and/or Economics with UEA, Norwich

10 double degree places are offered for students of the Master of Economics or Master of Management and Economics. The second and third semester are spent in Norwich.

**Contact:**
Name: Prof. Dr. Michael Roos  
Email: mak@ruhr-uni-bochum.de


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Double Master’s Degree in Philology (Spanish Department) with Universidad de Oviedo

After spending time at the partner university during the last year of their studies, students gain the Spanish Licenciatura degree and the German Master degree.

**Contact:**
Name: Lidia Santiso Saco  
Email: lidia.saco@rub.de

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Double Master’s degree in Transformation of Urban Landscapes (TUL)

Faculty of Geosciences, department of Geography

**Degree:** Master of Science (RUB) and Master in Engineering (Tongji University)

**Application deadline:** 15 July (winter semester)

**Prerequisites:** Bachelor of Science degree in Geography, Spatial Planning (‘Raumplanung’) or familiar equivalent study programmes from Germany or other countries. Thorough knowledge of English.

**Contact:** Prof. Dr. Harald Zepp. +49 234 32-23313, email: gi-research@rub.de

**More information:** [www.geographie.rub.de/transformation-urbaner-landschaften](http://www.geographie.rub.de/transformation-urbaner-landschaften)

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Double Master’s Degree for students of "Financial Services" at the CDHK at Tongji-University, Shanghai, with the Faculty of Economics

Students of the CDHK can continue their studies at RUB from the 4th semester onwards.

**Contact:**
Name: Prof. Dr. Bernahrd Pellens  
Email: pellens@iur.rub.de
Double Master's Degree of the Faculty of Mechanical Engineering with the CDHK at Tongji University, Shanghai

Double degree in production techniques that can be obtained by German and Chinese students (studying at both locations).

Contact:
Name: Prof. Dr.-Ing. Horst Meier
Email: Meier@lps.rub.de

Double Bachelor's Degree in History with Université François Rabelais Tours

The students study at their home university for two semesters, then change to the other university. The 5th semester is spent in Tours by all students, the 6th in Bochum.

Contact:
Name: Prof. Dr. Gerhard Lubich Dr. Jens Lieven
Email: Gerhard.lubich@rub.de jens.lieven@ruhr-uni-bochum.de

Double Master's Degree “Diskurse und Praktiken kultureller Vermittlung / Discours et Pratiques de Méditations culturelles” with Université François Rabelais Tours

Students will spend the first and the second semester in Bochum (the second semester jointly with students from Tours) and the third and fourth at Université Tours. Upon completion of the studies, they will be awarded a Master’s degree of both RUB and Université Tours.

Contact:
Name: Prof. Linda Simonis
Email: Linda.Simonis@ruhr-uni-bochum.de

Double Bachelor's / Master's Degree in National and European Law with Université François Rabelais Tours

Both double Bachelor's and double Master's degree. Students spent two semesters together in Bochum and two in Tours.

Contact:
Name: Prof. Dr. Adelheid Puttler
Email: dfbs-info@rub.de

Double Master’s Degree in Philology (French Department) with Université François Rabelais Tours

Students of both partner universities can spend the last year of their studies at the partner institution. Students are awarded a Master’s degree of both RUB and Université Tours.

Contact:
Name: Jürgen Niemeyer
Email: Juergen.Niemeyer@rub.de
European Master’s Programme in Human Rights and Democratisation

Institute for International Law of Peace and Armed Conflict

**Degree:** Master of Arts (joint degree)

**Next intake:** First Round Deadline: 15 January, Second Round Deadline: 15 March.

**Prerequisites:** university degree of a high standard in a field relevant to human rights, including disciplines of Law, Social Sciences and the Humanities and a minimum of 180 ECTS credits (Bachelor's/general degree)

**Fees:** tuition fees €4900 (one-off payment), enrolment fee €150, application processing fee €50, RUB’s social fee approx. €270 (per semester)

**Special feature:** first semester taught in Venice

**Contact:** Prof. Dr. Hans-Joachim Heintze Email: Hans-Joachim.Heintze@rub.de

More information: [www.emahumanrights.org](http://www.emahumanrights.org)

Joint Master’s Degree Film and Audiovisual Media

Integrated studies in four different European countries, at key media and media studies locations

**Contact:**

Name: Prof. Dr. Oliver Fahle
Email: Oliver.Fahle@rub.de

Name: Jasmin Stommel
Email: Jasmin.Stommel@rub.de

[www.rub.de/ifm/studium/master-film-av.html](http://www.rub.de/ifm/studium/master-film-av.html)
LANGUAGE COURSES

ZFA – CENTER FOR FOREIGN LANGUAGE TRAINING

a) Language Courses
The University Language Centre (Zentrum für Fremdsprachenausbildung, ZFA) provides courses aimed at specialist and non-specialist language learners, with a particular focus on the key attributes of developing cultural awareness and intercultural communicative competence in an academic setting. Classes take place during the semester and - in the form of intensive courses - during the semester break.
The University Language Centre currently offers classes for 14 different languages: Arabic, Chinese, Dutch, English, French, Italian, Japanese, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish and Turkish.
More Information: www.rub.de/zfa

b) German as a Foreign Language
In addition to the language courses listed above, there are numerous offers for German as a Foreign Language. In addition to preparatory courses, there are a lot of courses that may be taken during the semester alongside regular studies. These courses are designed for the special needs of international students, PhD students and international researchers.

c) Certification
In some of the courses for the languages listed above, there is the possibility to achieve special certificates:
TestDaF (Deutsch als Fremdsprache – German as a Foreign Language); UNIcert® (English, French, Italian, Polish, Russian, Swedish, Spanish); DELE (Spanish); CNaVT (Dutch); Swedex and Tisus (Swedish); DELF/DALF (French); IELTS (English) and DAAD-language certificate.

d) Individual Learning
The University Language Centre also provides various opportunities for individual learning and offers support, guidance and individual assistance:
- Tandem (Two people with different native languages learn with and from each other in a systematic manner)
- Centre for self-organised learning
- Language-learning coaching
More information: http://www.ruhr-uni-bochum.de/zfa/sgl/index.html.de

Bochum Institute of Intensive Language Training (LSI – Landesspracheninstitut)
This institute offers intensive language courses for Arabic, Chinese, Japanese and Russian, along with a smaller number of less intensive courses for Korean, Persian, Dari and Turkish.
For more Information, please visit: www.landesspracheninstitut-bochum.de
If you are coming to RUB as an **exchange student**, you have to apply for an exchange programme at your home university. You will find all of the required information at [www.international.rub.de/gaststudis](http://www.international.rub.de/gaststudis).

If you wish to **complete a degree at RUB**, you are very welcome to submit your application. Please note, however, that you have to fulfil certain criteria in order to be able to study at RUB:

Your **higher education entrance qualification** must be recognised as equivalent to the German qualification. Your higher education entrance qualification (Hochschulzugangsberechtigung, HZB) is your school leaving certificate or proof of studies already completed at secondary education level. To qualify for admission to RUB, you must be able to prove that you possess the equivalent of the German Abitur qualification, which is the examination taken at the end of your secondary education.

You will find more information regarding this topic at: [www.international.rub.de/bewerbung/zulassung/hzb](http://www.international.rub.de/bewerbung/zulassung/hzb).

Furthermore, you need sufficient **German skills** for most degree programmes. The international degree programmes listed in the first chapter of this brochure are an exception and these Programmes have individual application procedures. A high standard of German language skills are required for successful completion of a regular course at Ruhr-Universität Bochum. Language skills can be proven by presenting a certificate gained for passing one of the following examinations:

- DSH examination (level 2 or 3)
- ZOP examination or Goethe-Zertifikat C2 of the Goethe-Institut
- German language diploma, level II, of the Goethe-Institut
- TestDaF with the grades 4 x 4 or 16 points
- Degree in German philology.

You will find more information on this subject at [www.international.rub.de/bewerbung/zulassung/deutschkenntnisse](http://www.international.rub.de/bewerbung/zulassung/deutschkenntnisse).

Ruhr-Universität Bochum offers an online application system. Application procedure can differ, depending on the country you are coming from and the subject you are planning to study at RUB.

You will find all of the necessary information and the online application tool at [www.international.rub.de/bewerbung](http://www.international.rub.de/bewerbung).

Please note the **application deadlines** at RUB:
Application period, winter semester: 15/05 - 15/07
Application period, summer semester: 15/11 - 15/01

International degree programmes may have their own deadlines and application procedures. For more information, check the chapter “International Master Programmes”
INTERNATIONAL SEMINARS AND LECTURES

The following chapter contains a compilation of seminars and lectures (Bachelor, Master and PhD) held in English or other foreign languages.

Please note: These seminars and lectures are NOT necessarily part of an international degree programme.

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HISTORY OF JEWISH MAGIC IN LATE ANTIQUITY AND THE EARLY MIDDLE AGES

Language: English

Department: CERES
Degree programme: Bachelor
Contact: Prof. Dr. Alexandra Cuffel, +40 (0)234 - 32-22336, alexandra.cuffel@rub.de
Module: Jewish Studies
Module taught entirely in foreign language: No
Course type: Seminar
Credit Points: 2 CP
Teacher/Lecturer: Prof. Dr. Alexandra Cuffel
Requirements:

Room | Day, Time | Begin
FNO 02/73-75 | Monday 10-12 | 2014-10-13

Course description:
In this course we will examine the development of Jewish magical practices and beliefs during late antiquity and the early Middle Ages. Particular attention will be paid to the relationship between magic and religion in general, and more specifically the contextualization of Jewish magic in relationship to that of surrounding cultures – Persian and Roman cultures, early Byzantine, Islamic and western European practices and attitudes. Students will work through a select number of Hebrew sources relating to magic. Those who are unable to read Hebrew will be required to do additional reading of articles or primary sources in translation. Graduate students will have a bibliography of scholarly articles for which they will be responsible in addition to the readings required of undergraduate students. Course taught in English, though students may use German during discussion or translation if necessary.

Proofs of academic achievement:
This course is credited for „Optionalbereich“. No
This course is especially suitable for exchange students. No
FACULTY OF BIOLOGY AND BIOTECHNOLOGY

SCIENCE MEETING (190580)

Language: English

Department: Faculty of Biology and Biotechnology, Geobotany, ND 03/174
Contact: Prof. Dr. Dominik Begerow, Tel.: 0234-3237212, Email: Dominik.begerow@rub.de
Degree programme: -

Course type: Seminar
Credit Points: 1

Requirements: Own research in the field of Evolutionary Mycology

Course description:
Exchange on research concepts, progress report and discussion of new results.

Proofs of academic achievement: non

Teacher/Lecturer: Prof. Dr. Dominik Begerow
Room: ND 1 / 58
Day: Thursday, fortnightly
Time: 10:00 – 11:00
Begin: by arrangement

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no
This course is part of a module taught entirely in language as above: no

PHYLOGENETIC RECONSTRUCTION (190372 + 190373)

Language: English

Department: Faculty of Biology and Biotechnology, Geobotany, ND 03/174
Contact: Prof. Dr. Dominik Begerow, Tel.: 0234-3237212, Email: Dominik.begerow@rub.de
Degree programme: -

Course type: Seminar
Credit Points: 15

Requirements: Bachelor Degree in Biology

Course description:
At the end of the module the participants will have gained knowledge of techniques of computer based phylogenetic reconstruction mostly by means of DNA-data records.

Proofs of academic achievement: Poster presentation, Seminar talk, Minutes of the lectures

Teacher/Lecturer: Prof. Dr. Dominik Begerow
Room: ND 03/175
Day: by arrangement
Time: by arrangement
Begin: by arrangement

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no
This course is part of a module taught entirely in language as above: yes
LECTURE SERIES IN BIOTECHNOLOGY

Department: various Departments of the Faculty Biology and Biotechnology
Contact: PD Dr. Markus Piotrowski
Degree programme: Master of Science in Biology
Module: Lecture Series in Biotechnology
Module taught entirely in foreign language: Yes
Course type: Lecture Series
Credit Points: none
Teacher/Lecturer: various
Requirements: Bachelors Degree in Biology or related disciplines

Room | Day, Time | Begin
--- | --- | ---
ND 2/99 | Wednesday, 12.00-13.30 | 15/10/2014

Course description:
The lecture series in biotechnology is taught by various members of the Faculty of Biology and Biotechnology. It covers all modern aspects of white, green, blue and red biotechnology and will also highlight biotechnology research projects of the faculty. This course is mandatory for students with the study focus Biotechnology. It is especially suitable for exchange students.

Proofs of academic achievement: regular attendance, a written examination is optional for students requiring such an examination
This course is credited for „Optionalbereich“. No

JOURNAL CLUB: “STRUCTURE, FUNCTION AND PLASTICITY OF THE CENTRAL NERVOUS SYSTEM”

Department: Neurophysiology
Contact: Prof. Dr. Denise Manahan-Vaughan, Tel. 0234/32-22042, email: lmr@rub.de
Degree programme: Bachelor/Master
Module: Module taught entirely in foreign language: Yes
Course type: analytical skills training in neurophysiology
Credit Points: 1
Teacher/Lecturer: Prof. Denise Manahan-Vaughan, Prof. Klaus Funke, Dr. Arne Buschler, Dr. Hardy Hagena, Dr. Niels Hansen, Dr. Valentina Wiescholleck
Requirements: Bachelors Degree in... /...

Room | Day, Time | Begin
--- | --- | ---
MA 2/150 | Wednesday, 4.30 p.m. | 08/10/2014

Course description: n.s.
Proofs of academic achievement: n.s.
This course is credited for „Optionalbereich“. Yes
190587: KOLLOQUIUM ZU FORSCHUNGSARBEITEN DES LEHRSTUHLS PFLANZENPHYSIOLOGIE

Department: Plant Physiology
Contact: Angelika Ernst, 0234-32-28004, pflanlzj@rub.de
Degree programme: Bachelor/Master/PhD
Module: -
Module taught entirely in foreign language: Yes
Course type: seminar
Credit Points: 2
Teacher/Lecturer: Prof. Dr. Ute Krämer/PD Dr. Markus Piotrowski/Prof. Dr. Danja Schünemann
Requirements:

Room | Day, Time | Begin
--- | --- | ---
ND 3/34 | Friday, 8.30-10.00 | 10/10/2014

Course description:
Talks about ongoing research at the institute

Proofs of academic achievement: participation and lecture
This course is credited for „Optionalbereich“. No

190594: KOLLOQUIUM METALLHOMÖOSTASE; GRUNDLAGEN UND PRAXIS DES WISSENSCHAFTLICHEN ARBEITENS IN DER PFLANZENPHYSIOLOGIE

Department: Plant Physiology
Contact: Angelika Ernst, 0234-32-28004, pflanlzj@rub.de
Degree programme: Bachelor/Master/PhD
Module: -
Module taught entirely in foreign language: Yes
Course type: seminar
Credit Points: 1
Teacher/Lecturer: Prof. Dr. Ute Krämer
Requirements:

Room | Day, Time | Begin
--- | --- | ---
ND 3/34 | Wednesday, 9.00-11.00 | 16/10/2014

Course description:
Reports on research related to metal homoeostasis and plant metabolism

Proofs of academic achievement: participation
This course is credited for „Optionalbereich“. No
190563: JOURNAL CLUB PLANT PHYSIOLOGY

**Language:** English

**Department:** Plant Physiology

**Contact:** Angelika Ernst, 0234-32-28004, pflanzj@rub.de

**Degree programme:** Master/PhD

**Module:** -

Module taught entirely in foreign language: Yes

**Course type:** seminar

**Credit Points:** 1

**Teacher/Lecturer:** Prof. Dr. Ute Krämer

**Requirements:**

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<tr>
<td>ND 3/34</td>
<td>Monday, 12.00-13.30</td>
<td>06/10/2014</td>
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**Course description:**

Reports on recent publications in plant physiology

**Proofs of academic achievement:** report

This course is credited for „Optionalbereich“. No

---

**LECTURE INTRODUCTION TO BIOINFORMATICS FOR STUDENTS OF BIOCHEMISTRY (M.SC.)**

**Language:** English

**Department:** Lehrstuhl für Biophysik

**Contact:** PD Dr. Mathias Lübben, Phone 24465, E-Mail Mathias.Luebben@bph.rub.de

**Degree programme:** Bachelor/Optionalbereich and Master of Biology or Biochemistry

**Module:** 190702

Module taught entirely in foreign language: Yes

**Course type:** Lecture

**Credit Points:** 5

**Teacher/Lecturer:** PD Dr. Mathias Lübben, Prof. Dr. Axel Mosig, Prof. Dr. Raphael Stoll, Dr. Steffen Wolf

**Requirements:** Students of the “Optionalbereich” should have a basic knowledge in Molecular Biology; Students of Biochemistry should have a Bachelor degree

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<td>HGA20</td>
<td>Friday, 8.15-10.00</td>
<td>10/10/2014</td>
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**Course description:**

In this lecture we give a basic introduction into various fields of bioinformatics, such as data banks and techniques of data recording, molecular sequence analysis and comparison, phylogeny,
structure prediction of RNA and proteins, molecular structure analysis, molecular graphics and simulation of molecular dynamics. Special emphasis is on the application of bioinformatic tools. When needed, the used computer algorithms are discussed. The lecture is accompanied by a computer practical (IVV 190703), which takes place as announced in the lecture.

**Proofs of academic achievement:** Written examination

This course is credited for „Optionalbereich“. Yes

---

**COMPUTER PRACTICAL: INTRODUCTION TO BIOINFORMATICS FOR STUDENTS OF BIOCHEMISTRY (M.SC.)**

**Language:** English/...

**Department:** Lehrstuhl für Biophysik

**Contact:** PD Dr. Mathias Lübben, Phone 24465, E-Mail Mathias.Luebben@bph.rub.de

**Degree programme:** Bachelor/Optionalbereich and Master of Biology or Biochemistry

**Module:** 190703

Module taught entirely in foreign language: Yes

**Course type:** Computer practical exercise

**Credit Points:** 0

**Teacher/Lecturer:** PD Dr. Mathias Lübben, Prof. Dr. Axel Mosig, Prof. Dr. Raphael Stoll, Dr. Steffen Wolf

**Requirements:** Students of the “Optionalbereich” should have a basic knowledge in Molecular Biology; Students of Biochemistry should have a Bachelor degree – The lecture “Introduction to Bioinformatics for Students of Biochemistry (M.Sc.)” (Module 190703) must be attended in parallel.

**Room**

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<td>ND04/99</td>
<td>To be announced in the accompanying lecture</td>
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**Course description:**

In this computer practical we deepen the basic introduction into various fields of bioinformatics, such as data banks and techniques of data recording, molecular sequence analysis and comparison, phylogeny, structure prediction of RNA and proteins, molecular structure analysis, molecular graphics and simulation of molecular dynamics. Special emphasis is on the application of bioinformatic tools. The exercises are accompanied by a lecture (IVV 190702).

**Proofs of academic achievement:** The proof of achievement is coupled to the written examination according to the lecture IVV 190702,

This course is credited for „Optionalbereich“. Yes
FACULTY OF CIVIL AND ENVIRONMENTAL ENGINEERING

COMPUTATIONAL ENGINEERING

DESIGN OPTIMIZATION

Department: Computational Engineering
Contact: CompEng Office, 0234/32-25485, compeng-support@rub.de
Degree programme: Computational Engineering
Module: Design Optimization
Module taught entirely in English
Course type: Lecture (2h) and exercise (2h)
Credit Points: 6
Teacher/Lecturer: Dr. Lehner

Requirements: -

Room | Day, Time | Begin
--- | --- | ---
IC 03/604 (Wed), IC 04/137 | Wednesday 12.00 – 13.30, Thursday 8.30 – 10.00 | 15/10/2014 (Wed)
CIP-Pool (Thu) | |

Course description:
Introduction: Definition of optimization problems, History of optimization
- Design as a process: Conventional design, Optimization as a design tool
- Optimization from a mathematical viewpoint: Numerical approaches, Linear optimization, Convex domains, partitioned domains, Examples
- Categories of opt. variables: Explicit design variables, Synthesis and analysis, Discrete and continuous variables, Shape variables
- Dependant design variables
- Realization of constraints: Explicit and implicit constraints, Constraint transformation, Equality constraints
- Optimization criterion: Objectives in structural engineering
- Application of design optimization in structural engineering: Trusses and beams, Framed structures, Plates and shells, Mixed structures
- Solution techniques: Direct and indirect methods, Gradients, Hessian matrix, Kuhn-Trucker conditions

Learning objectives: Acquirement of skills in design optimization to be able to model, solve and evaluate optimization problems for moderately complex technical systems.

Proofs of academic achievement: written examination (70%) and seminar papers (30%)
This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no
SAFETY AND RELIABILITY OF ENGINEERING STRUCTURES (CE W10)

Department: Computational Engineering
Contact: CompEng Office, 0234/32-25485, compeng-support@rub.de
Degree programme: Computational Engineering
Module: Safety and Reliability of Engineering Structures
Module taught entirely in English
Course type: Lecture (2h) and exercise (2h)
Credit Points: 6
Teacher/Lecturer: PD Dr. Kasperski
Requirements: Basic knowledge in structural Engineering

Room
IC 03/606 (Mon + Thu)

Day, Time
Monday 9.30 – 11.00,
Thursday 10.00 – 12.00

Begin
13/10/2014 (Mon)

Course description:
- Introduction - causes of failures
  Basic definitions - safety, reliability, probability, risk
- Basic demands for the design and appropriate target reliability values: Structural safety,
  Serviceability, Durability, Robustness
- Formulation of the basic design problem: R > E
- Descriptive statistics: position (mean value, median value), dispersion (range, standard
deviation, variation coefficient), shape: (skewness, peakedness)
- Theoretical distributions: Discrete distributions (Bernoulli and Poisson Distribution),
  Continuous distributions (Rectangular, Triangular, Beta, Normal, Log-Normal, Exponential,
  Extreme Value Distributions)
- Failure probability and basic design concept
- Code concept - level 1 approach
- First Order Reliability Method (FORM) - level 2 approach
- Full reliability analysis - level 3 approach
- Probabilistic models for actions: dead load, imposed loads, snow and wind loads, combination
  of loads
- Probabilistic models for resistance: cross section – structure
- Further basic variables: geometry, model uncertainties
- Non-linear methods and Monte-Carlo Simulation

Learning objectives: Students should attain the following qualifications / competencies:
Basic knowledge on statistics and probability, deeper understanding of the basic principles of
reliability analysis in structural engineering, basic knowledge on how codes try to meet the
reliability demands in regard to structural safety and serviceability, basic knowledge in simulation
techniques

Proofs of academic achievement: written examination (85%) and Project work on simulation
techniques (15%)
ADAPTIVE FINITE ELEMENT METHODS (CE W07)

Department: Computational Engineering
Contact: CompEng Office, 0234/32-25485, compeng-support@rub.de
Degree programme: Computational Engineering
Module: Adaptive Finite Element Methods
Module taught entirely in English
Course type: Lecture (3h) and exercise (1h)
Credit Points: 6
Teacher/Lecturer: Prof. Dr. R. Verfürth

Requirements: Basic knowledge about: partial differential equations and their variational
formulation, finite element methods, numerical methods for the solution of large linear and non-
linear systems of equations

Course description:
1st week: Introduction
Need for efficient solvers; drawbacks of classical solvers; need for error estimation; drawbacks of
classical a priori error estimates; need for adaptivity; outline
2nd week – 4th week: Notation
model differential equations; variational formulation; Sobolev spaces, their norms and properties;
finite element partitions and basic assumptions; finite element spaces; review of most important
equation; review of a priori error estimates
5th – 6th: week Basic a posteriori error estimates
equivalence of error and residual; representation of the residual; upper bounds on the residual;
lower bounds on the residual; local and global bounds; review of general structure; application to
particular examples
7th week: A catalogue of error estimators
residual estimator; estimators based on local problems with prescribed traction; estimators based
on local problems with prescribed displacement: hierarchical estimates; estimators based on
recovery techniques; equilibrated residuals; comparison of estimators
8th week: Mesh adaptation
general structure of adaptive algorithms; marking strategies; subdivision of elements; avoiding
hanging node; convergence of adaptive algorithms
9th -10th week: Data structures
local and global enumeration of elements and nodes; enumeration of edges and faces;
neighbourhood relation; hierarchy of grids; refinement types; derived structures for higher order
elements and for matrix assembly
11th – 12th week: Stationary iterative solvers
review of classical methods and of their drawbacks; taking adavantage of adaptivity; conjugate
gradients; need for preconditioning; suitable preconditioners
13th – 14th week: Multigrid methods
why do classical methods fail; spectral decomposition of the error and consequences for iterative
solution; multigrid idea; generic structure of multigrid algorithms; basic ingredients of multigrid
algorithms; role of smoothers; examples of suitable smoothers

Proofs of academic achievement: written examination
MECHANICAL MODELLING OF MATERIALS (CE P02)

Department: Computational Engineering
Contact: CompEng Office, 0234/32-25485, compeng-support@rub.de
Degree programme: Computational Engineering
Module: Mechanical Modelling of Materials
Module taught entirely in foreign language: Yes
Course type: Lecture (2h) and exercise (2h)
Credit Points: 6
Teacher/Lecturer: Prof. Dr.-Ing. Steeb

Requirements: Basic knowledge in Mathematics and Mechanics

Room
IC 03/610 (Mon), HZO 90 (Tue)
Day, Time
Monday 14.00 – 16.00,
Tuesday 14.00 – 16.00
Begin
13/10/2014 (Mon)

Course description:
Several advanced issues of the mechanical behaviour of materials are addressed in this course. More precisely, the following topics will be covered:
• Basic concepts of continuum mechanics (introduction)
• Introduction into the rheology of materials (solid, fluid, multiphase materials, jammed materials)
• Theoretical concepts of constitutive modelling
• 1-dimensional constitutive approaches for
  o Elasticity, hyperelasticity
  o Inelasticity (plasticity, damage, viscoelasticity)
  o Multiphase/porous materials
• 3-dimensional generalization of material modelling concepts
• Simple boundary and initial value problems

Proofs of academic achievement: written examination
This course is credited for „Optionalbereich“. No
This course is especially suitable for exchange students. No

COMPUTER-ORIENTED DESIGN OF STEEL STRUCTURES

Department: Computational Engineering
Contact: CompEng Office, 0234/32-25485, compeng-support@rub.de
Degree programme: Computational Engineering
Module: Computer-oriented Design of Steel Structures
Module taught entirely in foreign language: Yes
Course type: Lecture (2h) and exercise (2h)
Credit Points: 6
Teacher/Lecturer: Prof. Dr. M. Knobloch

Requirements: Fundamental knowledge in mechanics and strength of materials

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<td>HZO 100</td>
<td>Tuesday 10.15 – 11.45,</td>
<td>14/10/2014 (Tue)</td>
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<td>Thursday 13.15 – 14.45</td>
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Course description:
Basics of Design and Fundamentals for Computer-Oriented Calculations
- Basic principles of structural design
- Verification methods Elastic-Elastic and Elastic-Plastic
- Beam theory and torsion
- Finite elements for beams
- Design software
- Practical course in the structural Testing Laboratory

Verifications Regarding Stability and Second Order Theory
- Geometric non-linear design of structures - second order analysis
- Buckling of linear members and frames
- Lateral buckling and lateral torsional buckling
- Eigenvalues and –shapes
- Numerical methods for plate buckling
- Design software
- Practical course in the structural Testing Laboratory

Proofs of academic achievement: written examination

This course is credited for „Optionalbereich“. No
This course is especially suitable for exchange students. No

MODERN PROGRAMMING CONCEPTS IN ENGINEERING (CE P04)

Language: English

Department: Computational Engineering
Contact: CompEng Office, 0234/32-25485, compeng-support@rub.de

Degree programme: Computational Engineering
Module: Modern Programming Concepts in Engineering
Module taught entirely in foreign language: Yes

Course type: Lecture (2h) and exercise (2h)

Credit Points: 6
Teacher/Lecturer: Prof. Dr.-Ing. M. König

Requirements: -

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<td>IC 04/628 CIP-Pool (Wed),</td>
<td>Wednesday 8.30-10.00,</td>
<td>16/10/2014 (Thu)</td>
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<td>IC 03/604 (Thu)</td>
<td>Thursday 8.00 – 10.00</td>
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Course description:
Lectures and exercises cover the following topics:
• Principles of object-oriented modelling
  o Encapsulation
  o Polymorphism
  o Inheritance
• Unified Modelling Language (UML)
• Basic programming constructs
• Fundamental data structures
• Implementation of efficient algorithms
  o Vector and matrix operations
  o Solving systems of linear equations
  o Grid generation techniques
• Using software libraries
  o View3d a visualization toolkit
  o Packages for graphical user interfaces
During the exercises, students practice object-oriented programming techniques in the computer lab on the basis of fundamental engineering problems.

Proofs of academic achievement: written examination (70%) and homework (30%)

This course is credited for „Optionalbereich“.

This course is especially suitable for exchange students.

MATHEMATICAL ASPECTS OF DIFFERENTIAL EQUATIONS AND NUMERICAL MATHEMATICS (CE P01)

Language: English

Department: Computational Engineering
Contact: CompEng Office, 0234/32-25485, compeng-support@rub.de
Degree programme: Computational Engineering
Module: Mathematical Aspects of Differential Equations and Numerical Mathematics
Module taught entirely in foreign language: Yes
Course type: Lecture (2h) and exercise (2h)
Credit Points: 6
Teacher/Lecturer: Prof. Dr. G. Röhrle
Requirements: Basic calculus and experience with matrices

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<tr>
<td>NC 6/99 (Wed),</td>
<td>Wednesday 11.00 – 13.00,</td>
<td>15/10/2014 (Wed)</td>
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<tr>
<td>NB 6/99 (Thu)</td>
<td>Thursday 11.00 – 13.00</td>
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Course description:
Linear algebra: Basic concepts and techniques for finite- and Infinite-dimensional function spaces stressing the role of linear differential operators. Numerical algorithms for solving linear systems.
The mathematics of the finite element method in the context of elliptic partial differential equations (model problems) in dimension two.

Proofs of academic achievement: written examination

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no

FINITE ELEMENT METHODS IN LINEAR STRUCTURAL MECHANICS (CE P05)

Department: Computational Engineering
Contact: CompEng Office, 0234/32-25485, compeng-support@rub.de
Degree programme: Computational Engineering
Module: Finite Element Methods in Linear Structural Mechanics
Module taught entirely in foreign language: Yes
Course type: Lecture (2h) and exercise (2h)
Credit Points: 6
Teacher/Lecturer: Prof. Dr. techn. G. Meschke
Requirements: Basics in Mathematics, Mechanics and Structural Analysis (bachelor level)

Room | Day, Time | Begin
--- | --- | ---
HIC (Mon) | Monday 8.00 – 10.00 | 13/10/2014 (Mon)

Course description:
Introduction to the finite element method in the framework of linear elastodynamics. Based upon the weak form of the boundary value problem principles of spatial discretization using the finite element method are explained step by step. First, one-dimensional isoparametric p-truss elements are used to explain the fundamentals of the finite element method. Afterwards the same methodology is used to develop two-(plane stress and plane strain) and three-dimensional isoparametric p-finite elements for linear structural mechanics. In addition to analyses related to structural mechanics, the application of the finite element method to the spatial discretization of problems associated with transport processes within structures (e.g. heat conduction, pollutant transport, moisture transport, coupled problems) is demonstrated. The second part of the lecture is concerned with finite element models for beams and plates. In this context aspects of element locking and possible remedies are discussed. The lectures are supplemented by exercises to promote the understanding of the underlying theory and to demonstrate the application of the finite element method for the solution of selected examples. Furthermore, practical applications of the finite element method are demonstrated by means of a commercial finite element program.

Proofs of academic achievement: written examination (85%) and seminar papers (15%)

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no
VARIATIONAL CALCULUS AND TENSOR ANALYSIS (CE WP01)

Language: English

Department: Computational Engineering
Contact: CompEng Office, 0234/32-25485, compeng-support@rub.de
Degree programme: Computational Engineering
Module: Variational Calculus and Tensor Analysis
Module taught entirely in foreign language: Yes
Course type: Lecture (2h) and exercise (1h)
Credit Points: 4
Teacher/Lecturer: Dr.-Ing. R. Jänicke
Requirements: Basic knowledge in Mathematics and Mechanics

Room
HZO 100 (Thu), HZO 90 (Fri)

Day, Time
Thursday 15.00 – 17.00,
Friday 12.00 – 14.00

Begin
16/10/2014 (Thu)

Course description:
Several issues of variational calculus and tensor analysis are addressed in this course. More precisely, the following topics will be covered:
- Motivation: Why do we need variations and tensors in mechanics?
  Variational calculus:
  - First and second variation
  - Direct methods
  - Constrained minimisation problems, Lagrange multipliers
  - Hamilton’s principle
  Tensor analysis:
  - Vector and tensor notation
  - Recall of vector and tensor algebra
  - Dual bases, coordinates in Euclidean space
  - Differential calculus
  - Scalar invariants and spectral analysis
  - Isotropic functions
Applications to continuum mechanics will be introduced.
Forms

Proofs of academic achievement: written examination

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no
DYNAMICS OF STRUCTURES (CE WP10)

Department: Computational Engineering  
Contact: CompEng Office, 0234/32-25485, compeng-support@rub.de  
Degree programme: Computational Engineering  
Module: Dynamics of Structures  
Module taught entirely in foreign language: Yes  
Course type: Lecture (2h) and exercise (2h)  
Credit Points: 6  
Teacher/Lecturer: Prof. Dr.-Ing. R. Höffer, Prof. Dr. techn. Meschke  
Requirements: A first degree in engineering sciences (e.g. B.Sc.), A profound previous knowledge in fluid mechanics, especially mechanics of solids and numerical methods in dynamics

Room  
Day, Time  
Begin  
IC 03/606  
Wednesday 8.30 - 10.00  
15/10/2014 (Wed)

Course description:
The lecture recapitulates and deepens the methodology of the calculation of single- and multi-degree-of-freedom oscillations of structures. Dynamical analyses are based on simplified models of structures and on the application of modal analysis. A second focus is put on the modelling and the computation of random vibrations of structures. The spectral method for a stationary, broadbanded excitation mechanism like wind excitation is introduced. The response spectrum method for the treatment of earthquake excitations is applied. In addition to the procedures in the frequency domain numerical representations of stochastic processes in time domain are explained.
The contents of the lecture are deepend during the excercises and through seminar papers performed by the students. The presentation of related results through students is part of the modul.
Learning objectives: The students shall attain the qualifications to apply realistic models of dynamically excited engineering structures and of the excitation mechanism including simplified, stochastic excitation models for wind or earthquake impacts, and to analyse the structural responses.

Proofs of academic achievement: written examination

This course is credited for „Optionalbereich“. no  
This course is especially suitable for exchange students. yes/no

COMPUTATIONAL PLASTICITY (CE WP11)

Department: Computational Engineering  
Contact: CompEng Office, 0234/32-25485, compeng-support@rub.de  
Degree programme: Computational Engineering  
Language: English
Module: Computational Plasticity
Module taught entirely in foreign language: Yes
Course type: Lectures including exercises: 3h
Credit Points: 4
Teacher/Lecturer: Dr.-Ing. U. Hoppe
Requirements: A first degree in engineering sciences, e.g. B.Sc. Basic knowledge of continuum mechanics is required

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<td>IC 04/408</td>
<td>Monday 13.00 – 16.00</td>
<td>13/10/2014 (Mon)</td>
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Course description:
Learning objectives: Fundamentals of computational modeling of inelastic materials with emphasis on rate independent plasticity. A sound basis for approximation methods and finite element method. Understanding of different methodologies for discretisation of time evolution problems, and rate independent elasto-plasticity in particular.

Proofs of academic achievement: written examination

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no

ADVANCED CONTROL METHODS FOR ADAPTIVE MECHANICAL SYSTEMS (CE WP12)

Language: English

Department: Computational Engineering
Contact: CompEng Office, 0234/32-25485, compeng-support@rub.de
Degree programme: Computational Engineering
**Module:** Advanced Control Methods for Adaptive Mechanical Systems  
Module taught entirely in foreign language: Yes  

**Course type:** Lecture (2h) and exercise (2h)  

**Credit Points:** 6  

**Teacher/Lecturer:** Prof. Dr.-Ing. T. Nestorovic  

**Requirements:** Control theory, Structural Control, Dynamics and Apatronics

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**Course description:**  
Advanced methods for the control of adaptive mechanical systems are introduced in the course. The introduction involves the recapitulation of the fundamentals of active structural control and the extension to advanced control. In addition to numerical modelling using the finite element approach, system identification is explained as an experimental approach. Theoretical backgrounds of the experimental structural modal analysis are introduced along with the terms and definitions used in signal processing. Experimental modal analysis is explained using the Fast Fourier Transform. Advanced closed loop control methods involving optimal discrete-time control, introduction of additional dynamic for the compensation of periodic excitations and basic adaptive control algorithms are explained and pragmatically applied for solving problems of vibration suppression in civil and mechanical engineering.

**Proofs of academic achievement:** written examination (75%) and seminar paper (25%)  

This course is credited for „Optionalbereich“. no  
This course is especially suitable for exchange students. no

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**COMPUTATIONAL WIND ENGINEERING**

**Language:** English

**Department:** Computational Engineering  
**Contact:** CompEng Office, 0234/32-25485, compeng-support@rub.de  

**Degree programme:** Computational Engineering  
**Module:** Computational Wind Engineering  
Module taught entirely in foreign language: Yes  

**Course type:** lecture (1h) and exercise (1h)  

**Credit Points:** 3  

**Teacher/Lecturer:** Prof. Dr.-Ing. R. Höffer  

**Requirements:** Modern Programming Concepts in Engineering, Fluid Dynamics  

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<td>IC 03/647</td>
<td>Tuesday 12.00 - 14.00</td>
<td>14/10/2014</td>
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**Course description:**
Details and guidelines about the application of CFD methods in wind engineering are introduced and studied. Related problems which are relevant for practical applications and solution procedures are investigated. The lectures and exercises contain the following topics:

- short review of boundary layer turbulence and the Navier-Stokes equations
- turbulence models for implementation to the computation for mean wind quantities: k-ε-models, k-ω-models and derivatives
- Implementation of turbulence for time resolved computations: Large-eddy simulation, concept of DNS
- isotropic turbulence and turbulence in a boundary layer flow
- mesh generation strategies and introduction to the mesh generator ICEM
- Introduction to solver applications using the program systems ANSYS CFX and OpenFoam

Within the scope of the exercises, the students are guided to working out assessment and solution strategies for related, typical technical problems in wind engineering.

**Proofs of academic achievement:** written examination

This course is credited for „Optionalbereich“.  no
This course is especially suitable for exchange students.  no
FACULTY OF EAST ASIAN STUDIES

JAPAN IN REGIONAL AND GLOBAL GOVERNANCE

Language: English

Department: East Asian Studies, Politics of East Asia
Contact: Szczepanska, Kamila, Do 14:00-16:00 Uhr, GB 1/51, Kamila.Szczepanska@rub.de
Degree programme: Master
Module: Aussen- und sicherheitspolitik Ostasiens ASO
Module taught entirely in foreign language: Yes
Course type: Seminar 090351 every two weeks
Credit Points: 4,5
Teacher/Lecturer: Szczepanska, Kamila, Ph.D
Requirements: Bachelors Degree in... /...

Room
Day, Time
Begin
GA 03/140
Thursday 10-14
09/10/2014

Course description:
The class will focus on the role played by Japan in a set of chosen global and regional institutions since the 1945. We will discuss the evolving relationship between Japan and the most significant global institutions such as the United Nations, Bretton Woods institutions: International Monetary Fund and World Bank, World Trade Organisation (WTO), Organisation for Economic Cooperation and Development (OECD), G8 and G20. During the class the following issues will be analysed: 1) Japan’s behaviour in the aforementioned institutions and factors (domestic and international) that shape it, 2) Japan’s approach to reforming the current system of global governance, and 3) the country’s overall contribution to global governance. Furthermore, Japanese involvement in multilateral institution-building in Asia will be investigated as well. Here, the main focus will be put on Japan’s relationship with ASEAN, the country’s participation in the East Asia Summit as well as on-going process of pursuing FTA and EPA agreements with the country’s neighbours. Special attention will be given to the increasing competition between Japan and China over leadership position in the region.

Proofs of academic achievement: Oral examination/written examination/...

This course is credited for „Optionalbereich“. No

INTERNATIONAL RELATIONS OF EAST ASIA

Language: English

Department: East Asian Studies, Politics of East Asia
Contact: Szczepanska, Kamila, Do 14:00-16:00 Uhr, GB 1/51, Kamila.Szczepanska@rub.de
Degree programme: Bachelor
Module: Länderübergreifende Politikanalyse Ostasiens LPO,  
Module taught entirely in foreign language: Yes  
**Course type:** Seminar 090304 every two weeks  
**Credit Points:** 5  
**Teacher/Lecturer:** Szczepanska, Kamila, Ph.D  
**Requirements:** Completion of GPO modules necessary to participate in this class. Communicative level of English to read, discuss and present argument during the class is required (but if problems arise, we will try to work around them)

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<tr>
<td>GA 03/140</td>
<td>Wednesday 10-14</td>
<td>08/10/2014</td>
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**Course description:**
The aim of the class is to investigate the main developments and transformations of international relations of East Asia after 1945. During the course we will analyse the situation of the region perpetuated by the Cold War environment, as well as the increase of multifaceted tensions that emerged after 1989, as well as the rise of China and challenges to the existing regional order related to it. We will discuss the regional institutional framework and its ability [or failure] to facilitate the relationship between the main actors in EA. The course will address, among the others, the matter of US presence and influence in EA; the legacies of the past that shape relations between Japan, China and South Korea; territorial conflicts in the region; as well as economic cooperation and interdependence between the main actors. During the course the students will practise applying a range of IR theories to the discussed topics.

**Proofs of academic achievement:** Oral examination/written examination/...

This course is credited for „Optionalbereich“. No
FACULTY OF ECONOMICS

MARKET AND NON-MARKET VALUATION OF ENVIRONMENTAL GOODS

Language: English

Department: Energy Economics and Applied Econometrics
Contact: Chr. Brüggemann, +49 (0)2 01/ 81 49 234, brueggemann@rwi-essen.de
Degree programme: Master
Module: Market and Non-Market Valuation of Environmental Goods
Module taught entirely in foreign language: Yes
Course type: block seminar
Credit Points: 5
Teacher/Lecturer: Prof. Dr. Manuel Frondel
Requirements: Bachelors Degree in Economics, Knowledge in Empirical Economics Research and/or Econometrics

Course description:
The valuation of environmental goods and amenities is often complicated by the lack of market prices. This seminar will deal with distinct empirical methods to estimate the value of environmental goods and amenities. Methods to be covered include both market and non-market valuation methods, such as hedonic pricing, contingent valuation and revealed preference methods to elicit willingness-to-pay.

Proofs of academic achievement: written paper and oral examination

This course is credited for „Optionalbereich“. No

DEFENCE ECONOMICS

Language: English

Department: Chair of Theoretical and Applied Microeconomics
Contact: Prof. Dr. Jörg Schimmelpfennig, 0234 32222468, GC 2/155
Degree programme: Master
Module: Defence Economics
Module taught entirely in foreign language: Yes
Course type: Lecture
Credit Points: 5 ECTS
Teacher/Lecturer: Prof. Dr. Jörg Schimmelpfennig
**Requirements:** Advanced Microeconomics; Game Theory

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<tr>
<td>HGC 50</td>
<td>Monday 12-14</td>
<td>13/10/2014</td>
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**Course description:**
The aim of this course is to present a wide range of applications of both microeconomic theory as well as typical microeconomic tools in connection with defence-related topics such as
- Military Alliances, Arms Races and Security Issues
- The Defence Industrial Base
- Specifications and Military Procurement
- Learning Curves
- Weapon Systems and Operational Issues
- Warfighting: Strategy and Tactics
- Network Centric Warfare versus Irregular Warfare
- Defence Industry Employment
- Military Personnel see Module Handbook

See Module Handbook:

**Proofs of academic achievement:** written examination

This course is credited for „Optionalbereich“. No

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**APPLIED TIME SERIES ANALYSIS**

**Language:** English

**Department:** Lehrstuhl für Quantitative Analyse (Statistik/Ökonometrie)

**Contact:** Christina Kläre, +49 (0)234/32-25401, christina.klaere@rub.de

**Degree programme:** MSc in Management, MSc in Economics, MSc in Management and Economics

**Module:** Applied Time Series Analysis

Module taught entirely in foreign language: Yes

**Course type:** Lecture (2h) plus Tutorial (2h)

**Credit Points:** 10 ECTS

**Teacher/Lecturer:** Prof. Dr. Vasyl Golosnoy and Assistants

**Requirements:** At least one graduate course in econometrics.

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<tr>
<td>HGC 40, Lecture</td>
<td>Monday, 10-12</td>
<td>06.10.2014*</td>
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<tr>
<td>HGC 40, Tutorial</td>
<td>Monday, 08-10</td>
<td>06.10.2014*</td>
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*Please pay attention to the news on the department’s website.
Course description:
This course provides the review of time series models widely applied in economics and finance. Starting from univariate linear ARMA models we consider a broad class of linear and non-linear time series approaches (including ARIMA, GARCH, VARMA, etc.) with focusing on estimation and forecasts. Upon successful completion of the module "Applied Time Series Analysis" students should be able to understand and to use modern time series techniques in empirical research.

Proofs of academic achievement: written examination

This course is credited for „Optionalbereich“.

FINANCIAL ECONOMETRICS

Language: English

Department: Lehrstuhl für Quantitative Analyse (Statistik/Ökonometrie)
Contact: Christina Kläre, +49 (0)234/32-25401, christina.klaere@rub.de
Degree programme: MSc in Management, MSc in Economics, MSc in Management and Economics
Module: Financial Econometrics
Module taught entirely in foreign language: Yes
Course type: Lecture (2h) plus Tutorial (2h)
Credit Points: 10 ECTS
Teacher/Lecturer: Prof. Dr. Vasyl Golosnoy and Assistants
Requirements: At least one graduate course in econometrics.

Room | Day, Time | Begin
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HGC50, Lecture | Tuesday, 10-12 | 07.10.2014*
HGC50, Tutorial | Tuesday, 08-10 | 07.10.2014*

* Please pay attention to the news on the department’s website.

Course description:
This course provides the review of empirical methods applied in a quickly growing field of financial econometrics. The course concentrates on describing and modelling stylized facts found in return and volatility time series. The important financial models (CAPM, APT) are discussed from the empirical point of view as well.

Upon successful completion of the module "Financial Econometrics" students should be able to understand and to use modern econometric techniques for modelling financial processes.

Proofs of academic achievement: written examination

This course is credited for „Optionalbereich“.

No
SEMINAR IN ECONOMETRICS

Language: English

Department: Lehrstuhl für Quantitative Analyse (Statistik/Ökonometrie)
Contact: Christina Kläre, +49 (0)234/32-25401, christina.klaere@rub.de
Degree programme: MSc in Management, MSc in Economics, MSc in Management and Economics
Module: Seminar in Econometrics
Module taught entirely in foreign language: Yes
Course type: Seminar
Credit Points: 5 ECTS
Teacher/Lecturer: Prof. Dr. Vasyl Golosnoy and Assistants
Requirements: At least one graduate course in econometrics.

Room
Day, Time
Begin
Will be published on the department’s website.
Will be published on the department’s website.
Will be published on the department’s website.

Course description:
The seminar provides a broad spectrum of topics to choose, primarily (but not only!) in the fields of macroeconomics, financial econometrics and time series econometrics. The students are supposed to write a seminar work (max 20 pages) and to present it at the end of the semester.

Proofs of academic achievement: Seminar Paper (70%), Presentation (30%)
This course is credited for „Optionalbereich“. No

ECONOMETRICS

Language: English

Department: Lehrstuhl für Quantitative Analyse (Statistik/Ökonometrie)
Contact: Christina Kläre, +49 (0)234/32-25401, christina.klaere@rub.de
Degree programme: MSc in Management, MSc in Economics, MSc in Management and Economics
Module: Econometrics
Module taught entirely in foreign language: Yes
Course type: Lecture (2h) plus Tutorial (2h)
Credit Points: 10 ECTS
Teacher/Lecturer: Prof. Dr. Vasyl Golosnoy and Assistants
Requirements: Bachelor courses in inferential statistics and basic econometrics
Course description:
This course provides the first graduate course in econometrics, which concentrates primarily on the linear regression model, its estimation, inferences and diagnostics. A short introduction in time series analysis would conclude the course.
Upon successful completion of the module "Econometrics" students should have a sound theoretical background in econometrics which is required in more applied and specialized quantitative courses.

Proofs of academic achievement: written examination

This course is credited for „Optionalbereich“. No
International seminars and lectures

FACULTY OF ELECTRICAL ENGINEERING

OPTOELECTRONICS, 141267

Department: Lehrstuhl für Photonik und Terahertztechnologie
Contact: Dr. Nils Gerhardt, Tel: 26514, nils.gerhardt@rub.de
Degree programme: Master
Module: Lasers and Photonics
Module taught entirely in foreign language: Yes
Course type: Lecture
Credit Points: 6
Teacher/Lecturer: Dr.-Ing. Nils Gerhardt
Requirements: Bachelor Degree in Electrical Engineering, Information Technology, Physics or Mechanical Engineering
Room: ID 05/158
Day, Time: Wednesday, 10:15 – 12:00
Begin: 08/10/2014
Room: ID03/401
Day, Time: Thursday, 14:15 – 16:00
Course description:
At first, the basic principles of semiconductors (lattice structure, band structure, doping) are introduced. In the second chapter, the elementary interactions between light and semiconductors are addressed. The third chapter contains the p-n-junction and hetero junctions. Then, the most important devices: solar cells, photodiodes, light emitting diodes, and semiconductor lasers are discussed in separate chapters. New devices like modulators and optical switches are referred to in the second last chapter and the last chapter consists of an overview about organic optoelectronics.

Proofs of academic achievement: Oral examination

This course is credited for „Optionalbereich“. No

TERAHERTZ TECHNOLOGY, 141266

Department: Lehrstuhl Photonic und Terahertztechnologie
Contact: Prof. Dr.-Ing. Martin Hofmann
Degree programme: Master
Module: Lasers and Photonics
Module taught entirely in foreign language: Yes
Course type: Lecture
Credit Points: 4
Teacher/Lecturer: Dr.-Ing. Carsten Brenner
**Requirements:** Bachelor Degree in Electrical Engineering, Information Technology, Physics or Mechanical Engineering

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<td>ID 05/158</td>
<td>Monday, 9:15 – 11:45</td>
<td>06/10/2014</td>
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**Course description:**
For a long time the generation of THz radiation was a major issue. In the past 20 years the possible approaches to generation and detection of THz radiation have evolved. The lecture gives an overview over radiation in this spectral region and its possible applications. Main focus of the lecture are concepts for THz generation that are based on optical principles (quantum cascade lasers, gas and pulse lasers) as well as electronic means (mixers, tunnel diodes, superconducting contacts). Special attention is paid to time domain spectroscopy which has become a commercially available technology in the past few years.

**Proofs of academic achievement:** Oral examination

This course is credited for „Optionalbereich“. Yes
FACULTY OF GEOSCIENCES

MICROECONOMICS OF COMPETITIVENESS: FIRMS, CLUSTERS AND ECONOMIC DEVELOPMENT

Language: English

Department: Geographisches Institut
Contact: Prof. Dr. Matthias Kiese, Tel. 23436, Matthias.Kiese@rub.de
Degree programme: Master of Science
Module: 170096
Module taught entirely in foreign language: Yes
Course type: Seminar
Credit Points: 6
Teacher/Lecturer: Prof. Dr. Matthias Kiese, Julian Kahl
Requirements: M.Sc. students in Geography, Master and PhD students from other programmes (esp. Political Science, Economics, Management Studies, International Development)

Room: NA 01/130
Day, Time: Monday, 14.00 – 17.00
Begin: 06.10.2014

Course description:
Microeconomics of Competitiveness (MOC) is a graduate course created in a multiyear development effort by Professor Michael E. Porter and the staff and affiliates of the Institute for Strategy and Competitiveness at Harvard Business School. The MOC course explores the determinants of competitiveness and successful economic development viewed from a bottom-up, microeconomic perspective. While sound macroeconomic policies, stable legal and political institutions, and improving social conditions create the potential for competitiveness, wealth is actually created at the microeconomic level. The sophistication and productivity of firms, the vitality of clusters, and the quality of the business environment in which competition takes place, are the ultimate determinants of a nation’s or region’s productivity.

The course has been designed not only for students at Harvard but as a platform that can be taught at universities throughout the world. The course platform consists of case studies and other written materials plus an extensive library of video content that can be used in class including lectures by Prof. Porter for all sessions and videotapes of case protagonists including heads of state, senior ministers, governors, and others.

Following Harvard’s tradition, the course is based on case studies only. Each session deals with a particular company, region or country case investigating the drivers of competitiveness. As preparation for each session, all students are required to read the respective case of approx. 20 cases. A three-hour session will typically include case discussions in small and large groups, audio-visual inputs featuring Prof. Porter and case protagonists, as well as a brief lecture input introducing the key theoretical concept illustrated by the case. As coursework, groups of up to four students prepare a case study analysing the competitiveness of a cluster of their own choice. The best paper will be submitted for a competition with student papers from more than 100 universities world-wide teaching the MOC course (cf. http://www.isc.hbs.edu/econ-student_projects.htm).
**Proofs of academic achievement:** Student Paper (100 %). As precondition for their paper being accepted, students are required to be present in class, and to contribute actively to case discussions.

This course is credited for „Optionalbereich“. Yes

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**170202 PLANNING THEORY AND PRACTICE**

**Language:** English

**Department:** Geographisches Institut

**Contact:** M.Sc. Svenja Grzesiok, M.Sc.Anne Rabe, 0234-23440, TUL-MSc@rub.de

**Degree programme:** international DoubleDegree Masterprogramme Transformation of urban Landscapes

**Module:** 170202 Planning Theory and Practice

Module taught entirely in foreign language: Yes

**Course type:** Seminar (containing some lecture input by academic teachers)

**Credit Points:** 8

**Teacher/Lecturer:** M.Sc. Svenja Grzesiok, M.Sc. Anne Rabe

**Requirements:** Bachelor Degree in Geography, Bachelor Degree in Spatial Planning

**Room**  
NA 7/128  
HZO 60  
Day, Time: Monday 12-14 Uhr  
Wednesday 18-20 Uhr  
Begin: 06.10.2014  
different Dates

**Course description:**
Students have gained a comprehensive and deepened understanding of the theoretical frame of reference regarding planning institutions and planning practice. They have acquired knowledge regarding the analysis of planning cultures and know about theories and practice of governance with reference to different social systems. Moreover they have got an in-depth insight into planning instruments and procedures in Germany and their application in the German planning practice. In addition they have acquired a wide-ranging understanding of new forms of cooperate governances in the field of environmental, urban and regional planning. Altogether students have gained an extensive theoretical understanding and a widespread practical insight into planning procedures in the field of environmental, urban and regional planning to meet the challenges of an on-going transformation of urban landscapes.

- Extended knowledge of planning theory, definitions, concepts, ethics, legitimation of planning
- Deepened understanding of theories and practice of governance
- Extended insight into strategies, concepts, instruments and procedures of urban and regional planning in Germany and their development
- New forms of cooperative governance, project and district management
- Deepened insight into strategies, concepts and projects of regional and urban planning in the Ruhr region carried out by public and private actors

**Proofs of academic achievement:** final mark at least 60%; weights: 100% written final report

This course is credited for „Optionalbereich“. Yes
PETROLOGY OF METAMORPHIC ROCKS

Language: english

Department: Institute for Geology, Mineralogy and Geophysics
Contact: Thomas Fockenberg, Tel.- 0234/32-24392, E-Mail: thomas.fockenberg@rub.de
Degree programme: Master
Module: n.s.
Module taught entirely in foreign language: Yes
Course type: lecture with practicals
Credit Points: 6
Teacher/Lecturer: Dr. Niels Jönns, Dr. Hans-Peter Schertl
Requirements: BSc in Earth Sciences or similar background

Room Day, Time Begin
Please contact the lecturer

Course description:
Learning the tools used in Metamorphic Petrology. These include petrography, phase relations (including graphical analysis of phase relations), textures. Phase assemblages as a function of pressure, temperature and composition in different metamorphic facies. Geothermobarometry. Basic processes involved in solid state reactions (with fluid / melt present). Fluids in metamorphism, contact metamorphism. Deformation and reaction. P-T-t histories (including geospeedometry) and connection to tectonic evolution.

Lectures will be accompanied by practicals using hand specimens and thin sections, as well as calculations using petrological and chemical data.

Proofs of academic achievement: written examination

This course is credited for „Optionalbereich“. No

KINETICS

Language: english

Department: Institute for Geology, Mineralogy and Geophysics
Contact: Thomas Fockenberg, Tel.- 0234/32-24392, E-Mail: thomas.fockenberg@rub.de
Degree programme: Master
Module: n.s.
Module taught entirely in foreign language: Yes
Course type: lecture
Credit Points: 5
Teacher/Lecturer: Prof. Dr. Sumit Chakraborty
Requirements: BSc in Earth Sciences or similar background
Course description:
Study of rate of reactions in igneous and metamorphic systems. Nucleation, crystal growth and
diffusion. Point defects and Diffusion mechanisms. Order-disorder and phase transitions. Rates
of overall transformation. Defects, deformation and microstructures. Use of these to determine
time scales (e.g. cooling rates, residence times) of igneous and metamorphic processes.

Proofs of academic achievement: written examination

This course is credited for „Optionalbereich“. No

RECENT DEVELOPMENTS IN IGNEOUS AND METAMORPHIC PETROLOGY

Language: english

Department: Institute for Geology, Mineralogy and Geophysics
Contact: Thomas Fockenberg, Tel.- 0234/32-24392, E-Mail: thomas.fockenberg@rub.de
Degree programme: Master
Module: n.s.
Module taught entirely in foreign language: Yes
Course type: seminar
Credit Points: 4
Teacher/Lecturer: Prof. Dr. Sumit Chakraborty, Dr. Ralf Dohmen, Dr. Hans-Peter Schertl, Dr.
Thomas Fockenberg
Requirements: BSc in Earth Sciences or similar background

Course description:
Study, with the help of advisors, of a series of papers on one topic/a set of topics over the course of the
semester. The papers may focus on analytical techniques, or studies on experimental petrology. These
would typically trace the evolution of a given kind of method with time, focusing on new advantages
that were gained as the tools evolved.

Proofs of academic achievement: The grade would be based on a paper that the students submit
before the end of the semester. The format would be that of a research proposal where a problem
/experimental method chosen. The students will have to justify why this method is preferred over other possible alternatives

This course is credited for „Optionalbereich“. No
PALEOCLIMATOLOGY AND CLIMATE CHANGE

Language: english

Department: Sediment and Isotope Geology
Contact: Ola Kwiecien, 23252, ola.kwiecien@rub.de
Degree programme: Master
Module: n.e.
Module taught entirely in foreign language: Yes
Course type: Lecture
Credit Points: 2
Teacher/Lecturer: Jun. Prof. Ola Kwiecien
Requirements: Bachelor Degree in eosciences

Room to be announced
Day, Time negotiable (block course)
Begin negotiable

Course description:
Climate change, a theme of global social and economic significance is widely discussed in media. Most attention is paid to the issue of global warming, regarding its nature, causes, and consequences. Human impact on climate is a subject of particularly hot debates. In order to understand recent changes and forecast the future ones we need to comprehend factors forcing Earth’s climate. The only way to achieve this goal is investigating the climate of the past. Here two aspects play crucial role: different time scales (tectonic, orbital, and centennial) and internal feedbacks between different components of a climate system (cryosphere, atmosphere, hydrosphere, and biosphere). Anchored in this context the curse will focus on information which can be teased out from different climatic archives (ice cores, marine and lacustrine sediments, speleotherms, corals, tree rings) by the use of different proxies (stable isotopes, biomarkers, elemental and mineral composition, faunal assemblages, growth rate).

Proofs of academic achievement: essay

This course is credited for „Optionalbereich“. No
MODERNIZATION OF THE OTTOMAN ARMY IN THE 19TH CENTURY

Language: english

Department: History of Ottoman Empire and Turkey
Contact: Dr. Dino Mujadzevic, E-Mail: dino.mujadzevic@rub.de
Degree programme: -
Module: Bachelor: Modul 6, Master of Arts/ Master of Education Modul 11,12,13,14
Module taught entirely in foreign language: No
Course type: Übung für Fortgeschrittene
Credit Points: 3
Teacher/Lecturer: Dr. Dino Mujadzevic
Requirements: -

Room Day, Time Begin
Please contact the lecturer Mi. 14-16 15.10.2014

Course description:
The course Modernization of the Ottoman army in 19th century aims to provide students with detailed introduction to one of the most important and, relatively speaking, the most successful segment of the Westernizing reforms in the late Ottoman state. The reform of the Ottoman military started in as early as late 18th c. as the first serious and comprehensive modernization attempt of any segment of the Ottoman central state institutions. During the 18th c. the Ottoman Empire was due to its military inferiority to Western powers and Russia, as well due to the diminishing power of the central authorities, in danger of its very survival as a state. The successful military, organized and armed in Western fashion, which would be able to match these immediate challenges, was seen as the most pressing question facing the Ottoman elite in this period. After several reforming waves during the 19th c., accompanied by the stiff resistance from conservative parts of the Ottoman elite, the Ottoman army became sufficiently effective force with ability to crush internal rebellions and re-establish the authority of the central state, but failed to permanently remove foreign military challenges to the Ottoman realm. Due to presence of foreign military advisors - initially French, later Prussian/German - and pioneering Western-styled education, the army became not only the place of the military knowledge-transfer, but also the first and probably the most important gateway of Western cultural influences in the Ottoman society. As the most Westernized institution in the country, the Ottoman army by the end of the century became hotbed of Western-influenced reformist oppositional thought. During this course the special attention will be given to the application of the “modernization” concept by the historians, to the contrasting discourses of foreign advisors/ and local Ottomans concerning the issue of the army reform, as well as the influence of this reforms on the future societal role of the Ottoman and Turkish in 20th c.

Proofs of academic achievement: presentation and paper

This course is credited for „Optionalbereich“. No
THINKING AND WRITING LIKE A LAWYER (SHOULD) – (4 classes at 4 different times, all same contents)

Department: Faculty of Law

Contact: Katrin Giesen, e-mail: katrin.giesen@rub.de, tel: 32-27681

Degree programme: Bachelor/Master

Module: Module taught entirely in foreign language: Yes

Course type: Lecture/workshop

Credit Points: 3

Teacher/Lecturer: Katrin Giesen

Requirements: Proficient English.

Course description:
The main objective of the course is to improve the written and oral English skills of students. During the course, students will learn how to express themselves in plain English language. The course will include drafting exercises (letter of advice to client, legal research memorandum to partner) and the improvement of oral skills (presentation skills, client interview and negotiation, introduction to mooting). The course will be taught by providing theoretical knowledge, and then practising the acquired skills by way of drafting and oral presentations and discussions.

Proofs of academic achievement: Written assessment: drafting a client letter, plus oral assessment: a choice of negotiation or presentation in class.

This course is credited for „Optionalbereich“. No
INTRODUCTION TO ENGLISH CONTRACT LAW

Department: Faculty of Law
Contact: Lisa Gow, e-mail: lisa.gow@rub.de, tel: 322-25273
Degree programme: Bachelor/Master/...
Module: Name
Module taught entirely in foreign language: Yes
Course type: Lecture/workshop
Credit Points: 3
Teacher/Lecturer: Lisa Gow
Requirements: Proficient English, plus prior study of law

Room
Day, Time
Begin
GC 8/39
Wednesday 10:15-11:45
15/10/2014

Course description:
This course will introduce students to the English law of contract. It will offer a general introduction to the common law system found in the English-speaking world, followed by an introduction to principles of contract law, including formation, interpretation, problems arising after formation, discharge of contract and remedies for breach. Students are expected to participate and complete written exercises. They must be able to understand, read, write and speak English.

Proofs of academic achievement: 2 assessments: one short presentation on a choice of case, plus a 2-hour written examination at the end of the course.

This course is credited for „Optionalbereich“. No

INTRODUCTION A LA TERMINOLOGIE JURIDIQUE FRANCAISE

Department: Faculty of Law, Lehrstuhl Prof. Puttler
Contact: Dr. Geoffrey Juchs, e-mail: geoffrey.juchs@rub.de, tel: 32-24967
Degree programme: Bachelor/Master
Module: Name
Module taught entirely in foreign language: Yes
Course type: Lecture
Credit Points: 3
Teacher/Lecturer: Dr. Geoffrey Juchs
Requirements: Proficient French

Room
Day, Time
Begin
To be announced
To be announced
To be announced
Course description:
Introduction to French legal terminology, with a focus on public and constitutional law.

Proofs of academic achievement: To be announced

This course is credited for „Optionalbereich“. No

INTRODUCTION TO UK CONSTITUTIONAL LAW – 2 different classes with same contents

Language: English

Department: Faculty of Law
Contact: Lisa Gow, e-mail: lisa.gow@rub.de, tel: 32-25273
Degree programme: Bachelor/Master
Module:
Module taught entirely in foreign language: Yes
Course type: Lecture/workshop
Credit Points: 3
Teacher/Lecturer: Lisa Gow
Requirements: Proficient English, as well as knowledge of constitutional law (foreign or German)

Room Day, Time Begin
GC 8/39 Course 1: Tuesday, 10:15–11:45 14/10/2014
Course 2: Tuesday, 12:15–13:45

Course description:
This course will introduce students to the institutions, key concepts and recent developments in United Kingdom constitutional law, which is not derived from a single, codified document, unlike most modern democracies. Students will first learn about the principal institutions of the state and the sources of UK constitutional law. We shall examine fundamental constitutional doctrines such as parliamentary sovereignty, the separation of powers and the rule of law. Towards the end, we examine the constitutional significance of recent developments, including membership of the EU, human rights, devolution and possible independence for Scotland.

Proofs of academic achievement: 2 assessments: 2-hour, closed-book written examination, plus a short essay on a specific topic from the course.

This course is credited for „Optionalbereich“. No
LAW AND GLOBAL CHALLENGES

Language: English

Department: Faculty of Law, Lehrstuhl Prof. Kaltenborn
Contact: Lukas Groß, e-mail: lukas.gross@rub.de
Degree programme: Bachelor/Master
Module: Name
Module taught entirely in foreign language: Yes
Course type: Seminar/workshop
Credit Points: 3
Teacher/Lecturer: Prof. Dr. Markus Kaltenborn
Requirements: Proficient English

Room | Day, Time | Begin
--- | --- | ---
GC 03/142 | Wednesdays 9:15 – 10:45 | 15/10/2014

Course description:
This course looks at global challenges from the perspective of international and transnational law. Topics include climate change, human rights, development aid, the rule of law, global trade, peace and security and the fight against terrorism.

Proofs of academic achievement: Short presentation in English on a specific topic and active class participation.

This course is credited for „Optionalbereich“. No
FACULTY OF MATHEMATICS

MATHEMATICAL ASPECTS OF DIFFERENTIAL EQUATIONS AND NUMERICAL MATHEMATICS

Department: Faculty of Mathematics
Degree programme: Master
Contact: Prof. Dr. Barney Bramham, 02347/32-24179, Barney.Bramham@rub.de
Module: Module taught entirely in foreign language: yes
Course type: Lecture
Credit Points: 3
Teacher/Lecturer: Prof. Dr. Gerhard Röhrle

Requirements:
Room: NC 6/99 and NB 6/99
Day, Time: Wednesday 11-13 and Thursday 11-13
Begin: October 8th, 2014

Course description:
As its title suggests, this lecture is about the mathematical aspects of differential equations and numerical analysis. Special emphasis is given to foundational mathematical concepts and their uses. The main topics of this lecture include: Aspects of linear algebra, The method of steepest descent, One-dimensional FEM (toy) models, Green’s Theorem.

Proofs of academic achievement:
This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no

ADAPTIVE FINITE ELEMENT METHODS

Language: English

Department: Faculty of Mathematics
Degree programme: Master Course Computational Engineering
Contact: Name, Phone, Email Prof. Dr. Rüdiger Verfürth, 0234/32-23247, ruediger.verfurth@rub.de
Module: Module taught entirely in foreign language: yes
Course type: Lecture
Credit Points: 6
Teacher/Lecturer: Prof. Dr. Rüdiger Verfürth
**Requirements:** Basic knowledge about: partial differential equations and their variational formulation, finite element methods, numerical methods for the solution of large linear and non-linear systems of equations

**Room**  
NB 02/99 and NA 2/99

**Day, Time**  
Monday 11-13 and Wednesday 15-17

**Begin**  
October 6\(^{th}\), 2014

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**Course description:**

**Introduction 1. week**
Need for efficient solvers; drawbacks of classical solvers; need for error estimation; drawbacks of classical a priori error estimates; need for adaptivity; outline

**Notation 2.-4. week**
Model differential equations; variational formulation; Sobolev spaces, their norms and properties; finite element partitions and basic assumptions; finite element spaces; review of most important example; review of a priori error estimates

**Basic a posteriori error estimates 5.-6. week**
equivalence of error and residual; representation of the residual; upper bounds on the residual; lower bounds on the residual; local and global bounds; review of general structure; application to particular examples

**A catalogue of error estimators 7. week**
Residual estimator; estimators based on local problems with prescribed traction; estimators based on local problems with prescribed displacement: hierarchical estimates; estimators based on recovery techniques; equilibrated residuals; comparison of estimators

**Mesh adaptation 8. week**
General structure of adaptive algorithms; marking strategies; subdivision of elements; avoiding hanging node; convergence of adaptive algorithms

**Data structures 9.-10. week**
Local and global enumeration of elements and nodes; enumeration of edges and faces; neighbourhood relation; hierarchy of grids; refinement types; derived structures for higher order elements and for matrix assembly

**Stationary iterative solvers 11.-12. week**
Review of classical methods and of their drawbacks; taking advantage of adaptivity; conjugate gradients; need for preconditioning; suitable preconditioners

**Multigrid methods 13.-14. week**
Why do classical methods fail; spectral decomposition of the error and consequences for iterative solution; multigrid idea; generic structure of multigrid algorithms; basic ingredients of multigrid algorithms; role of smoothers; examples of suitable smoothers

**Proofs of academic achievement:** 2 hour closed book written exam

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no
GEOMETRY AND TOPOLOGY IN MANY-BODY SYSTEMS

Language: English

Department: Faculty of Mathematics (Analysis II); Fakulty of Physics and Astronomy

Degree programme: Master

Contact: Winkelmann, 0234/32-28326, joerg.winkelmann@rub.de

Module: Geometry and Topology in many-body systems

Module taught entirely in foreign language: yes

Course type: lecture

Credit Points: 9

Teacher/Lecturer: Ilya Eremin and Jörg Winkelmann

Requirements: Bachelors Degree in Mathematics or Physics

Room
NB 3/158

Day, Time
Thursday 14.00-16.00

Begin
October 9th 2014

Course description:

The purpose of the course is to study topics from modern quantum physics together with their mathematical backgrounds.

Proofs of academic achievement:

This course is credited for „Optionalbereich“.

This course is especially suitable for exchange students.
Apart from few exceptions all courses offered by the English Department are taught in English.

The different courses cover topics from the fields of American Cultural Studies, British Cultural Studies, American Literature, British Literature and Linguistics.

Courses which could be particularly useful and interesting for exchange students are also provided in the modules Language Practice (i.e. Translation, Communication, Grammar) and English for Special Purposes (i.e. Legal English, Business English, Technical English).

A complete list can be found on the departmental homepage: http://www.es.rub.de/vorlesungsverzeichnis.html

Contact Information:

Geschäftszimmer GB 6/133
Mon-Fri: 9 am – 1 pm
Phone: 0234/32-22589
Email: anglistik@rub.de
Los comienzos de la gramaticografía del castellano

Department: Romanisches Seminar
Contact: Sabine Cremer-Duda, 32-28630, sabine.cremer-duda@rub.de
Degree programme: Master/M.Ed.
Module: Los comienzos de la gramaticografía del castellano
Module taught entirely in foreign language: No
Course type: Seminar
Credit Points: 7/5
Teacher/Lecturer: Prof. Dr. Wiltrud Mihatsch
Requirements: Bachelors Degree in... /...

Course description:
La época del Renacimiento vio nacer la primera gramática de una lengua romance, la gramática de la lengua castellana de Antonio de Nebrija. En este curso estudiaremos la estructura y concepción de esta obra, sus modelos y precursores como también otras gramáticas del castellano de aquella época. Se analizarán fenómenos morfosintácticos seleccionados, se compararán algunas gramáticas entre ellas y, por último, echaremos un vistazo a algunas gramáticas misioneras de lenguas indígenas de la época colonial, que también pertenecen a esta tradición.

Proofs of academic achievement: Oral examination/written examination/...
This course is credited for „Optionalbereich“. No

Le discours rapporté

Department: Romanisches Seminar
Contact: Sabine Cremer-Duda, 32-28630, sabine.cremer-duda@rub.de
Degree programme: Master/M.Ed.
Module: Le discours rapporté
Module taught entirely in foreign language: No
Course type: Seminar
Credit Points: 5/7
Teacher/Lecturer: Prof. Dr. Wiltrud Mihatsch
Requirements: Bachelors Degree in... /...

Room             Day, Time           Begin
GB 02/60         Di 12:00h - 14:00h  14/10/2014

Room             Day, Time           Begin
GB 7/31          Do 10:00h - 12:00h  16.10.2014
Course description:
Dans ce cours seront traités les différents sous-types de discours rapporté, le style direct, le style indirect, le style indirect libre et quelques types hybrides. Nous analyserons en particulier l’interprétation des pronoms, le choix des temps verbaux, les verbes introducteurs, les liens du discours rapporté avec l’évidentialité et l’évolution de marqueurs de citation comme les guillemets et genre dans le langage familier.

Proofs of academic achievement: Oral examination/written examination/...

This course is credited for „Optionalbereich“. No

PROBLEMAS DE CONCORDANCIA

Language: Spanish/German

Department: Romanisches Seminar
Contact: Sabine Cremer-Duda, 32-28630, sabine.cremer-duda@rub.de
Degree programme: Master/M.Ed.
Module: Problemas de concordancia
Module taught entirely in foreign language: No
Course type: Seminar
Credit Points: 5/7
Teacher/Lecturer: Prof. Dr. Wiltrud Mihatsch
Requirements: Bachelors Degree in... /...

Room  Day, Time  Begin
GABF 04/252  Do 12:00h - 14:00h  16/10/2014

Course description:
La concordancia no solo constituye un problema a la hora de aprender una lengua extranjera, también puede causar problemas para hablantes maternos, por ejemplo en el caso de los adjetivos que modifican sustantivos coordinados, la concordancia semántica (constructio ad sensum) en el caso de algunos sustantivos con interpretación colectiva (la mitad, la mayoría) y con varias construcciones binominales. Vamos a analizar estos problemas tanto con respecto a la gramática normativa, como manuales escolares y trabajos teóricos de sintaxis y semántica

Proofs of academic achievement: Oral examination/written examination/...

This course is credited for „Optionalbereich“. No
FACULTY OF PHILOSOPHY AND EDUCATION

INSTITUTE FOR PHILOSOPHY

COLLECTIVE INTENTIONALITY

Language: English

Department: Philosophy Department
Contact: Anika Fiebich, 0234-32-29810
Degree programme: Bachelor/Master
Module: WM IIa, WM IIIa, Master Cognitive Science
Module taught entirely in foreign language: Yes
Course type: Seminar
Credit Points: 4-6
Teacher/Lecturer: Dr. Anika Fiebich
Requirements: Bachelor Student in Philosophy; Master Student in Cognitive Science

Room: GABF 05/703
Day, Time: Thursday, 14.15-15.45
Begin: 09/10/2014

Course description:
In this seminar we will discuss various philosophical approaches to 'collective intentionality' as well as what are the implications of these approaches. What is 'collective intentionality'? What (if any) is the distinctive feature of the collective intention of a group compared to the single intention of an individual? Is the collective intention of a group reducible to the sum of single intentions of the individuals who constitute that group? What is the interrelation between intentions and actions? What are the characteristic features of joint actions? Which role does collective intentionality play for generating social institutions such as marriage or money. All the discussions and literature in this seminar are in English. A folder to copy the literature will be provided at the beginning of the semester.

Proofs of academic achievement: Oral examination/written examination

This course is credited for „Optionalbereich“. No

UNDERSTANDING PERCEPTION: THEORIES OF PERCEPTION, CONCEPTS AND COGNITION

Language: English

Department: Philosophy Department
Contact: Prof. Dr. Albert Newen, phone +49 (0)234 3222139, albert.newen@rub.de
Degree programme: Master
Module: WM IIa, WM IIIa, Md. Ed., MA Cognitive Science
Module taught entirely in foreign language: Yes

Course type: Course
Credit Points: 4 (or 6)
Teacher/Lecturer: Prof. Dr. Albert Newen/ Francesco Marchi M.A.
Requirements: Bachelors Degree in philosophy, linguistics, psychology, or cognitive neurosciences

Room   Day, Time   Begin
GA 03/46  Tuesday 10.00-12.00  07/10/2014

Course description:
Seminar: Research-oriented teaching (“Philosophy International”) The seminar introduces into the philosophical debate about object-perception and the role of concepts. This is connected with the debate about cognitive penetration: how is our perception of objects influenced by knowledge, beliefs, desire or other higher-order processes.
Students who participate in the seminar are invited to participate in (and may prepare comments for) the workshop “Perception and Cognitive Penetration: New Theories” (23.-24. March 2015). Some of the most influential philosophers already confirmed to come.
The seminar starts with an overview of theories of perception, especially concerning the classical debate what the role of concepts is for the perception of objects. Is any object perception involving concepts? This is claimed and argued for in the Neo-Kantian theory of McDowell. Or can we have a perceptual experience when seeing an object which is independent from concepts? This is claimed and argued for by Dretske who defends the view that the perceptual experience is nonconceptual while only the judgments based on this experience involve concepts. This epistemological debate is connected with recent developments in cognitive psychology and neurosciences. The new way to discuss the question in philosophy and cognitive science is: to which extend is object perception influenced by higher cognitive processes? The claim that high-level cognitive states such as (conceptual) beliefs and desires may influence how we perceive the world goes under the name of “cognitive penetrability”. Is there really a direct influence of our background beliefs on the perception of an object or our knowledge – on the basis of a nonconceptual perceptual experience – only modulating our perceptual judgment. What is the nature of perceptual experience and perceptual judgment? One main issue concerns the problem of content. It is usually accepted that high-level states have conceptual content, which is propositional in format. However, many theorists hold that, if lower-level perceptual states also have content, such content is non-conceptual and has a format analog to the perceptual stimulus itself. Therefore, one of the most pressing problems for advocates of cognitive penetrability is to explain how contents that are so different can interact with each other. Related question for cognitive penetration and for a more general philosophical epistemology of object perception are: What is the role of attention and predictive coding for cognitive penetration? What is the role of consciousness? What is the role of culture and emotion in object perception? How should we characterize concepts when we discuss their role for perception?
Literature: The articles will be available on Blackboard for the participants.

Proofs of academic achievement: Oral presentation / essay
This course is credited for „Optionalbereich“. No
PHILOSOPHY AND THE COGNITIVE SCIENCES / RECENT DEBATES AND LEARNING TO MAKE A PRESENTATION IN ENGLISH

Language: English

Department: Philosophy Department

Contact: Prof. Dr. Albert Newen, phone +49 (0)234 3222139, albert.newen@rub.de

Degree programme: Master

Module: MA WM IIIc
Module taught entirely in foreign language: Yes

Course type: Colloquium

Credit Points: 6, for PhD-students 2

Teacher/Lecturer: Prof. Dr. Albert Newen/ Prof. Dr. Markus Werning

Requirements: The colloquium welcomes Master and PhD-students in philosophy, linguistics, psychology, or cognitive neurosciences

Room
GA 04/187

Day, Time
Thursday 16.00-18.00

Begin
09/10/2014

Course description:
The colloquium will offer regular presentations half from M.A. or PhD-students from Bochum and half from external guests. The presentations will all be in the general domain of theoretical philosophy and cognitive sciences. The presentations should ideally but not necessarily have some interdisciplinary dimension such that perspectives from philosophy, psychology, linguistics and neurosciences can be systematically interconnected. The aim of the colloquium is to offer a platform for discussion of ongoing research and to support the education of students at the Master and PhD-level. Students who are accepted for a presentation in this seminar will receive a special training in preparing presentations in English. PhD-students who are interested in presentations should write an email to both organizers (albert.newen@rub.de and Markus.Werning@rub.de ) and come to the first meeting. The program of the semester will be fixed then. PhD-students can receive 2 credit points for an active participation. M.A.-students can receive 4 CP for a presentation in the colloquium (in the case of an additional essay, M.A. students can receive 6 CP).

Proofs of academic achievement: Oral presentation / essay

This course is credited for „Optionalbereich“. No

INTRODUCTION INTO COGNITIVE SCIENCE FOR PHILOSOPHERS AND STUDENTS OF COGNITIVE SCIENCES

Language: English

Department: Philosophy Department

Contact: Prof. Dr. Albert Newen, phone +49 (0)234 3222139, albert.newen@rub.de

Degree programme: Bachelor
Module: WM IIc, WM IIIc
Module taught entirely in foreign language: Yes
Course type: Lecture
Credit Points: 4
Teacher/Lecturer: Prof. Dr. Albert Newen, Prof. Dr. Tobias Schlicht
Requirements: Bachelors Degree in philosophy, linguistics, psychology, or cognitive neurosciences

Room: GABF 04/709
Day, Time: Wednesday, 10.00-12.00
Begin: 08/10/2014

Course description:
The lecture introduces the interdisciplinary field of cognitive science in combining philosophy, psychology, computational modeling and neurosciences. The lecture has the aim to deliver important basic knowledge from empirical sciences in the framework of theory formation. The credit points are delivered on the basis of a written examination and of some active work in the obligatory additional seminar.

The structure of the lecture:
1 Introduction: History of Cognitive Science
2 Basic Concepts in Cognitive Science
3 Cognitive Neuroscience of Perception
4 Modeling Vision
5 Philosophy of Perception
6 Procedural Memory and Action Control
7 Models of Motor Control
8 Enacted and Embodied Cognition
9 Theories of Emotion
10 Cognitive Neuroscience of Emotion
11 Memory of Emotion
12 Hippocampal Memory Systems
13 Models of Learning and Memory
14 Social Cognition: Evolution, Development, Pathology

Proofs of academic achievement: Written examination

This course is credited for „Optionalbereich“. No

LOGIC ONLINE COURSE

Language: English

Department: Philosophy Department
Contact: Dr. Peter Brössel, phone +49 (0)234 32 24724, peter.broessel@rub.de
Degree programme: Bachelor
Module: WM Ia,
Module taught entirely in foreign language: Yes

Course type: Online Course
Credit Points: 4
Teacher/Lecturer: Dr. Peter Brössel
Requirements: None

Room: GA 03/46
Day, Time: Tuesday, 18.00-20.00
Begin: 07/10/2014

Course description:
Arguments take center stage in philosophy and, thus, being able to formulate and evaluate arguments is a key ability for every philosophy student. Logic is the most important discipline studying rational argumentation and reasoning. This course aims at delivering a systematic introduction into the field of logic from the perspective of philosophy. Then main aim is to introduce the main concepts of propositional and first-order-logic and to train the formal methods required for formulating and evaluating arguments.

The seminar is organized as an online-seminar. Thus, you need online access to download the scriptum, to do the exercises, and to submit the homework (Computers with online access are available at the Computer- Center (NA) or at the library of the "Lehreinheit Philosophie" (Bibliothek, GA, 3. Etage): On the platform blackboard we will offer a script of the lecture as well as exercises with immediate feedback. The seminar will be supported by an online-tutorial. During the semester there will be obligatory meetings at the university. The first meeting will take place in the first week of the seminar on October 7th, 18.00-20.00. Additional meetings will take place on October 28th, November 18th, December 9th in 2014 and January 13th and 27th in 2015.

Literature:
Additional literature (as add-on to the script):

Proofs of academic achievement: A precondition for receiving a certificate is a) completing the weekly homework regularly (completion requires gaining at least 50 % of the possible points in that homework) and b) passing the written exam at the end of the semester. The certificate can be with or without grade.

This course is credited for „Optionalbereich“. No

CAUSATION, CAUSAL MECHANISMS, AND EXPLANATION

Language: English

Department: Philosophy Department
Contact: Dr. Peter Brössel, phone +49 (0)234 32 24724, peter.broessel@rub.de
Degree programme: Master
Module: WM IIIa,
Module taught entirely in foreign language: Yes
Course type: Seminar
Credit Points: 6
Teacher/Lecturer: Dr. Peter Brössel
Requirements: Bachelors Degree in philosophy, linguistics, psychology, or cognitive neurosciences

Room: GABF 05/703
Day, Time: Tuesday, 16.00-18.00
Begin: 07/10/2014

Course description:
The aim of this seminar is to provide an overview over current theories of causation and explanation with a special focus on the application of such theories in psychology and neuroscience. The seminar consists of two parts. The first part of the seminar consists of a general introduction to modern theories of causation and explanation. In particular, we take a look at counterfactual, probabilistic and mechanistic theories of causation and the deductive-nomological, statistical relevance, causal mechanical, and the unificationist account of explanation. In the second part of the seminar we will investigate in how far these conceptions of causation and explanation are applicable in psychology and neuroscience.

Proofs of academic achievement: Oral presentation / essay

This course is credited for „Optionalbereich“. No

COLLECTIVE INTENTIONALITY

Language: English

Department: Philosophy Department
Contact: Dr. Anika Fiebich, phone +49 (0)234 32 29810, anifiebich@googlemail.com
Degree programme: Master
Module: WM IIa, WM IIIa
Module taught entirely in foreign language: Yes
Course type: Seminar
Credit Points: 4
Teacher/Lecturer: Dr. Anika Fiebich
Requirements: Bachelors Degree in philosophy, linguistics, psychology, or cognitive neurosciences

Room: GABF 05/703
Day, Time: Thursday, 14.00-16.00
Begin: 09/10/2014

Course description:
In this seminar we will discuss various philosophical approaches to 'collective intentionality' as well as what are the implications of these approaches. What is 'collective intentionality'? What (if any) is the distinctive feature of the collective intention of a group compared to the single intention of an
individual? Is the collective intention of a group reducible to the sum of single intentions of the individuals who constitute that group? What is the interrelation between intentions and actions? What are the characteristic features of joint actions? Which role does collective intentionality play for generating social institutions such as marriage or money?

Proofs of academic achievement: Oral presentation / essay

This course is credited for „Optionalbereich“. No

**SEMINAR „PHILOSOPHY OF LANGUAGE MEETS NEUROLINGUISTICS“**

**Language:** English

**Department:** Philosophy Department

**Contact:** Dr. Guillermo del Pinal, phone 27159, guillermo.delpinal@rub.de  
Viviana Haase, M.A., M.A., phone 29618, Viviana.Haase@rub.de

**Degree programme:** Bachelor/Master

**Module:** Philosophy: BA WM IIc, MA WM IIIc  
Cognitive Science: MA/MSc C1: Language, Logic & Categories

Module taught entirely in foreign language: Yes

**Course type:** Course

**Credit Points:** 2-6

**Teacher/Lecturer:** Dr. Guillermo del Pinal, Viviana Haase, M.A., M.A.

**Requirements:** n. s.

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<td>GA 04/187</td>
<td>Tuesday 14-16</td>
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**Course description:**

In this class we will examine how recent advances in the neuroscientific investigation of language bear on influential cognitive models of our linguistic competence. In particular we will focus on semantic competence, hence, our capacity to assign meaning to an unbounded number of expressions of natural languages.

For this reason we will begin by discussing several recent proposals regarding the way and degree to which the faculty of language is compositional. We will continue with the investigation of the ongoing debate from the neuroscience of language which examines the compositionality of the faculty of language and its extent. The studies that will be consulted are based on two state of the art methods in neuroscience, namely, electroencephalography (EEG) and functional magnetic resonance imaging (fMRI). Finally, we will focus on particular constructions that have been studied in cognitive science and neurolinguistics, e.g. negative polarity items and noun phrase modification.

Active participation and a presentation (in English) will be required.

**Literature:**


RESEARCH COLLOQUIUM/DOCTORAL SEMINAR “PHILOSOPHY AND THE COGNITIVE SCIENCES”

Department: Philosophy Department
Contact: Prof. Dr. Albert Newen, phone 28724, albert.newen@rub.de
Prof. Dr. Markus Werning, phone 24734, markus.werning@rub.de
Degree programme: Master and PhD-students in philosophy, linguistics, psychology, and cognitive neurosciences
Module: Philosophy: MA WM IIIc, fachspezifisches Doktorandenseminar
Cognitive Science: MA/MSc Colloquium
Module taught entirely in foreign language: Yes
Course type: course/colloquium
Credit Points: 2-6
Teacher/Lecturer: Prof. Dr. Albert Newen, Prof. Dr. Markus Werning
Requirements: n. s.

Room          Day, Time           Begin
GA 04/187     Thursday 16-18     09/10/2014

Course description:
The colloquium will offer regular presentations given partly by Bochum MA and PhD students and partly by external guests. The presentations will all be in the general domain of theoretical philosophy and the cognitive sciences with a focus on language and concepts. The presentations should ideally, but not necessarily have some interdisciplinary dimension such that perspectives from philosophy, psychology, linguistics and neurosciences can be systematically interconnected. The aim of the colloquium is to offer a platform for the discussion of ongoing research and to support the education of students at the Master and PhD level. Students who are accepted for a presentation in this seminar will receive a special training in preparing presentations in English.

PhD-students who are interested in presentations should write an email to both organizers (albert.newen@rub.de and markus.werning@rub.de ) and come to the first meeting. The semester program will be fixed then. PhD-students can receive 2 credit points for an active participation. MA students can receive 4-6 CP for a presentation in the colloquium (to receive a mark, MA students have to write an additional essay). Topics can be freely chosen such that MA students can develop a talk in the area of their MA project (Ein avisiertes Masterprojekt kann selbstverständlich im Anschluss in deutscher Sprache ausgearbeitet werden).
KNOWING HOW TO PLAY: CONSEQUENTIALIST OUGHTS, DOMINANCE AND EQUILIBRIUM IN DECISION-MAKING

Department: Institute of Philosophy II
Contact: Dr. Roberto Ciuni, Tel.: 0234 328721
Degree programme: Master
Module: WMIII a
Module taught entirely in foreign language: Yes
Course type: Seminar
Credit Points: 6
Teacher/Lecturer: Dr. Roberto Ciuni
Requirements: Some knowledge of classical logic

Room
GA BF04/609
Day, Time
Wednesday 16:00-18:00 and Thursday 10:00-12:00
Begin
08/10/2014
fortnightly

Course description:

Game Theory and Logic have been constantly in dialogue in the last twenty years, with mutual benefits. Logic came with suitable tools for reasoning about what agents do, what results from their interaction, what they are able to do. Game Theory provided a solid mathematical utility theory that proved a natural foundation for consequentialist reasoning, that is the consideration of what one ought to do in relation to the consequences of the actions available to her. One formal theory, among many, has combined these two contributions: the Deontic-STIT theory by John Horty (Agency and Deontic Logic, Oxford University Press, 2001) allows us to reason about what agents ought to do by considering the utility of the agents' action. STIT logic (the logic of seeing-to-it-that) has been first systematically presented by Belnap et al. (Facing the Future, Oxford University Press, 2001). Consequentialist reasoning has a long-standing tradition and today it has experienced new developments in Game Theory. The main insight in Horty's proposal is to read 'agent i ought to see to it that A' as 'agent i's weakly dominant strategies all force A to hold'. The proposal overcomes serious problems of the traditional 'Chisholm-Meinong analysis' of 'ought-to-do' and it is based on the notion of dominated/dominant strategy, that grounds a number of solutions concepts in Game Theory. However, as it stands Horty's proposal can cover a very narrow range of game-theoretical phenomena. First, a notion of 'ought-to-do' in terms of Nash
Equilibrium and 'social efficiency' lies out of the scope of the proposal, which confines itself to individualistic considerations about consequences. Second, Horty's proposal cannot account for considerations of utility over randomized actions, that are the usual tool for introducing (objective) chance in agent's interaction. Third, the proposal cannot account for incomplete information, that is uncertainty of the players about others' utilities and the state of the interaction. This kind of uncertainty, however, prompts a different consideration on utilities, and is ubiquitous in our everyday's interaction. Fourth, extension of the proposal with operators for knowledge and belief is desirable, but it is yet not clear what options among the many available proves really convincing. With a joke of words we could say that in the above situations agents would not know how to play, if they would reason via Horty's theory. The present course approaches Horty's Deontic-STIT theories and compares it with different logics that are designed to deal with the four points above. The course is divided into twelve frontal lectures of ninety minutes each. The first four lectures will provide the basic formal and conceptual tools (basics of Game Theory, Modal Logics of agency, STIT logic and Horty's Deontic-STIT theory). The remaining eight lectures will be devoted to the exploration of alternative formalisms (four lectures) and to envisage possible extensions of Horty's theory (four lectures). The course will enable the students to develop the following abilities: (1) to recognize the basics of the philosophical logics of agency and their game-theoretical background; (2) to evaluate the main background and descriptive adequacy of Deontic-STIT theory; (3) evaluate the potential for an extension of the theory to more complex situations; (4) connect the formal constructions with the conceptual issues they propose to model, and discuss the worth of the former on the ground of the features of the latter.

Proofs of academic achievement: Oral examination/ essay

This course is credited for „Optionalbereich“. No

WHEN TRUTH IS NOT ENOUGH: THREE-VALUED LOGICS AND THEIR APPLICATION TO LOGICAL PARADOXES, VAGUENESS AND DENOTATION FAILURE

Language: English

Department: Institute of Philosophy II
Contact: Dr. Roberto Ciuni, 0234 328721
Degree programme: Bachelor
Module: WMII a
Module taught entirely in foreign language: Yes
Course type: Seminar
Credit Points: 4
Teacher/Lecturer: Dr. Roberto Ciuni
Requirements: Some knowledge of classical logic
Course description:

A sentence is either truth or false, and no sentence is both true and false. These are (1) the Principle of Bivalence and (2) the Principle of Exclusion, respectively. Although they sound very intuitive and appealing, there are many reasons to question (1) or (2). The primary reason has to do with the Liar Paradox: the self-referential sentence ‘This sentence is not true’, which notoriously, yields a contradiction. But (1) and (2) force us to infer any sentence from a contradiction, thus letting our reasoning crash. This problem, however, disappears if we drop (1) and (2). Other solutions are possible, but in the last twenty years, these two alternative strategies have become the most widespread, thus prompting the success of the two corresponding approaches. The first approach drops (1) and devises a paracomplete logic, thus losing Excluded Middle, the second drops (2) and devises a paraconsistent logic, thus making some contradictions true (and also false). Such approaches comes along with different three-valued logic, that assigns the problematic statement a non-classical truth-value: ‘neither true nor false’ in paracomplete logics, ‘both true and false’ in paraconsistent logics. The non-classical value is a sign that the usual categories ‘true’ and ‘false’ are inadequate when paradoxes are at stake. The course explores consequences, virtues, and drawbacks of the most widespread paracomplete and paraconsistent approaches to the logical phenomenon of the Liar Paradox. Also, it explores the two strategies in relation with the two non-logical phenomena of vagueness and denotation failure, which are traditionally approached by rejecting (1) or (2). The course is divided into twelve frontal lectures of ninety minutes each. The first two lectures will provide the basic formal and conceptual tools (Classical Logic, Law of Excluded Middle, Ex Contradictione Quodlibet, the Liar Paradox). The remaining ten lecture will be devoted to the exploration of the paracomplete and paraconsistent solutions, and the critical assessments of their virtues and limits. The course will enable the students will develop the following abilities: (1) to recognize the sources of the troubles with Bivalence and Exclusion; (2) to evaluate and cash out the main tenets of paracomplete and paraconsistent solutions to paradoxes, vagueness, denotation failure; (3) to approach critically the conceptual tenets motivating the paracomplete and paraconsistent solutions, respectively.

Proofs of academic achievement: Oral examination/ essay

This course is credited for „Optionalbereich“. No
FACULTY OF PSYCHOLOGY

MEMORY STABILIZATION

Language: english

Department: Psychology, Department of Cognition
Contact: Shira Meir Drexler, T: 22668, e-mail: shira.meirdrexler@rub.de
Degree programme: Bachelor
Module: Kognition und Gehirn
Module taught entirely in foreign language: Yes
Course type: Seminar
Credit Points: 3
Teacher/Lecturer: Shira Meir Drexler, MSc
Requirements: good english knowledge

Room: Gafo 02/368
Day, Time: Monday, 12-14
Begin: 13.10.2014

Course description:
The seminar aims to present the students with various topics and methodologies in the field of cognitive neuroscience. During the course, we will accompany the memory trace on its journey from initial consolidation, through subsequent reactivations and reconsolidation processes, to the point of stabilization. Neural correlates of memory consolidation and reconsolidation will be compared. Cognitive/behavioral and pharmacological methods, aimed to update or disrupt unwanted memories, will be presented in the light of their potential clinical relevance.
Course requirements: students (in groups of 2-3) will prepare a presentation on a selected topic. The course will be held in English.

Proofs of academic achievement: Presentation

This course is credited for „Optionalbereich“. No
Dear students, dear guests,

The Faculty of Social Science pursues a modern interdisciplinary approach to Social Science. One characteristic of our Bachelor’s degree is the combination of the five disciplines Political Science, Sociology, Social Psychology and Social Anthropology, Social Policy and Social Economy, as well as Social Science Methodology and Statistics. While our graduate students specialize on a major within Social Science, they still have the opportunity to select courses from the other programs, namely “Management and Regulation of Work, Economics, and Organization”, “Health Care Systems and Health Care Economics”, “Urban and Regional Planning”, “Globalization, Transnationalization, and Governance”, “Culture and Person”, “Methodology and Statistics”, and “Gender Studies”.

Exchange Students with previous knowledge in Social Science are welcome to consult our Common Course Catalogue with the Faculties of Politcal Science and Sociology at the University of Duisburg-Essen (Link see below). In order to broaden our offer of courses held in English, we cooperate closely with the University of Duisburg-Essen as part of the University Alliance Ruhr (UA Ruhr). The Faculty of Social Sciences in Duisburg/Essen offers a wide range of courses in the field of political science and sociology. In particular students with a high interest in International Relations, Governance, Development Policy, Migration and East Asian Studies can advance their professional competences within these fields.

In case you are enrolled full-time at RUB and plan to take any courses in order to fulfill requirements in the Optionalbereich, please contact Inga Poloczek (Poloczek-Optionalbereich@rub.de) beforehand.

For further information about studying at the Faculty of Social Science, including our Common Course Catalogue with the University of Duisburg-Essen, please consult our website: http://www.sowi.rub.de/studium/auslandsstudium/index.html.en

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**KEYNOTES ON GENDER, RACE, CLASS AND ECOLOGY: DIFFERENCES AND DISCUSSIONS FROM AN INTERNATIONAL PERSPECTIVE**

**Department:** Gender Studies (Social Science)

**Contact:** Katja Sabisch, +49(0)234 32-22988 , katja.sabisch@rub.de

**Degree programme:** Master

**Module:** Kultur & Geschlecht / Geschlecht und Gesellschaft

Module taught entirely in foreign language: Yes

**Course type:** Seminar

**Credit Points:**

**Teacher/Lecturer:** Prof. Dr. Katja Sabisch / Prof. Dr. Senay Kara

**Requirements:** Bachelors Degree in Gender Studies / Social Sciences or similar discipline

**Room** | **Day, Time** | **Begin**
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GBCF 04/300 | Wednesday 10.00-12.00 | 08/10/2014
Course description:
In this seminar, we read and discuss basic texts of international Women and Gender Studies. After an introduction to the history of feminism in the 19th and 20th century, we will study theorists of the “post”-era such as Judith Butler or Gayatri Spivak to highlight prevailing theoretical and political discussions. We will discuss the construction and working mechanisms of gender identities and roles through an intersectional approach, within the wider context of various other strong and mutually nourishing forms of inequalities –on the levels of class, race, ecology, and discourse/representation– putting a strong emphasis on the complex, multi-layered and interdependent quality of various forms of injustice and on the significant role of discursive/representational practices as their formative elements.

Proofs of academic achievement: “Studienachweis”: Active Participation (working groups), oral presentation “Leistungsnachweis”: Active Participation (working groups), oral presentation, final paper

This course is credited for „Optionalbereich“. No

INTRODUCTION TO FAMILY ECONOMICS

Department: Faculty of Social Science
Contact: Anke Moritz, +49 234 32 22966, international-services@sowi.rub.de
Degree programme: Bachelor
Module: Public Finance and governmental actions (Part II)
Module taught entirely in foreign language: No
Course type: Seminar
Credit Points: Full module : 8CP ; for information on creditation for only this part of the module please contact Anke Moritz.
Teacher/Lecturer: Bastian Hartmann
Requirements: Succesful participation in the Basismodul "Grundlagen der Sozialökonomik", ability to read and present in English, Registration in CampusOffice.

Room Day, Time Begin
GBCF 05/608 Monday, 10.15 – 11.45 06/10/2014

Course description:
This seminar provides an introduction into economic theory of family. Firstly, we will get to know the basic principles of economic theory, which understands family as voluntary partnership for the purpose of joint production and consumption. On this basis, we will study how familial decisions-such as marriage, fertility, intra family division of labor and divorce- are due to incentives and individual utility maximization. In the last part of the seminar the political framework for family decisions will be analyzed. This seminar is taught in English.


This course is credited for „Optionalbereich“. No
EUROPEAN INTEGRATION: INTRODUCTORY COURSE

Language: English

Department: Faculty of Social Science
Contact: Anke Moritz, +49 234 32 22966, international-services@sowi.rub.de
Degree programme: Bachelor
Module: Comparative Political Science (Part II)
Module taught entirely in foreign language: No
Course type: Seminar
Credit Points: Full module: 8CP; for information on creditation for only this part of the module please contact Anke Moritz.
Teacher/Lecturer: Dr. Patrycja Rozbicka
Requirements: Please register in CampusOffice by October 17, 2014. Students without an ID are asked to register with the teacher by E-mail. A good command of English is required.

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<td>UFO 1/03</td>
<td>Wednesday, 10.15 – 11.45</td>
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Course description:
European integration has caught everyone’s attention since international media alleged that the recent Euro crisis almost brought down Europe’s single currency, the euro. In fact, European integration is a quite unique phenomenon and poorly understood. While Europe’s member states are still sovereign in many policy areas, the European Union is becoming more and more regulatory, and is starting to resemble a federal system. This process, which started off as a by-product of economic integration, has developed into an impressive range of EU level, multi-area political and regulatory cooperation. One could argue provocatively that we are witnessing the creation of the United States of Europe in some form or other!
The purpose of the course is to get acquainted with an overview of central features of European integration. In particular, the course will focus on following aspects: historical background of the European integration process, central areas of European-wide regulation and their implementation in real-life cases. The course will also put European integration into perspective, including an examination of Europe’s stance on the current situation in the EU (economic crisis, foreign policy response to Ukraine situation, and twilight of climate change policy).
Proofs of academic achievement: Class participation, Presentation (group assignment), Mid-term and final exam and/or final paper

This course is credited for „Optionalbereich“. No

SOCIAL INEQUALITIES AND GLOBAL MIGRATION/MOBILITY

Language: English

Department: Faculty of Social Science
Contact: Anke Moritz, +49 234 32 22966, international-services@sowi.rub.de
Degree programme: Bachelor
**Module**: Internationalization and Society in Comparison (Part I); Cultural Change and Migration (Part II)

**Module taught entirely in foreign language**: Internationalization and Society in Comparison only

**Course type**: Seminar

**Credit Points**: Full module: 8CP; for information on creditation for only this part of the module please contact Anke Moritz.

**Teacher/Lecturer**: Dr. Kyoko Shinozaki

**Requirements**: Regular attendance and active participation.

**Room**

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**Day, Time**

- Thursday 10.15-13.45
- (16.10., 23.10., 06.11., 20.11., 04.12., 18.12., 15.01., 29.01.)

**Begin**

- 16/10/2014

**Course description:**

Class-based social inequalities have been one of the major subjects of inquiry in sociology. In conventional approaches to social inequalities, the national society has been treated as the total universe of analytic focus and concern even if this is often not explicated and rather presumed. However, through old and new (forms of) migrations in the accelerating globalization processes, which have shaped cultural heterogeneity, it is apt to take off the solely national focused "glasses" and explore alternative ways to explain and understand social inequalities and power hierarchies beyond the "national container".

This seminar invites those students who would like to actively engage with the issue of social inequalities resulting from different types of global migration and mobilities. These include, but are not limited to, migration into less-skilled sectors, domestic work, corporate expatriates, international student and researchers' mobility. More specifically, we will look at various approaches to social inequalities, such as from the global and development studies (Sen) and transnational perspectives (Faist, Pries, Weiß). Furthermore, we critically examine the centrality of class placed upon the study of social inequalities, by looking at other intersecting important social divisions including gender and 'race'/ethnicity (so-called "intersectional approach") to understand the complexity of social inequalities (Kofman, Lenz, Lutz).

Course reading is in both English and German.

**Proofs of academic achievement**: Studiennachweis": regular attendance, comments on/response to the reading
"Leistungsnachweis": regular attendance, comments on/response to the reading, term paper

This course is credited for „Optionalbereich“. No

**DOMESTIC POLITICS IN EMERGING MARKETS – DETERMINANTS OF THEIR REFORM TRAJECTORIES**

**Language**: English

**Department**: Faculty of Social Science

**Contact**: Anke Moritz, +49 234 32 22966, international-services@sowi.rub.de
**Degree programme:** Bachelor

**Module:** International Relations (Part II), International Structures and Processes (Part II)

Module taught entirely in foreign language: International Structures and Processes only

**Course type:** Seminar

**Credit Points:** Full module: 8CP; for information on creditation for only this part of the module please contact Anke Moritz.

**Teacher/Lecturer:** Rothacher

**Requirements:** Completed lecture „Introduction to International Relations“, Register on CampusOffice, Reading Reports (one page/text) of the readings listed in the Faculty’s course list; to be handed in by the third of fourth meeting.

**Room**  
GCFW 04/703

**Day, Time**  
Thursday, 14.15 – 15.45

**Begin**  
09/10/2014

**Course description:**
The thorough reforms in the 80s and 90s ushered in a period of macroeconomic stabilization and sizeable growth rates in the emerging economies. The recent economic slowdown, however, has raised new questions and doubts about the macroeconomic management and market reforms over the past decade. This seminar seeks to empirically and theoretically discern the drivers of reforms and identify which factors might have hampered further progress. First the seminar will therefore examine the reforms in the 90s, which sloughed off the former state-led growth models and look at the economic models, which have evolved over the past twenty years. On this basis the seminar will proceed to identify the actors that have either pushed further reforms or have tried to hinder them. The questions therefore include: How has increasing globalization of the emerging economies influenced domestic politics? How have vested interests opposed reform initiatives? And how have ideational convictions of the constituents shaped the reform trajectory? The seminar will use the Societal Approach as its theoretical framework. Case studies shall focus on country cases with established democratic systems, such as Brazil or India.

**Proofs of academic achievement:**
Studiennachweis: aktive Teilnahme, Literaturberichte, Referat und Thesenpapier.
Modulprüfung (Leistungsnachweis): wie Studiennachweis inklusive Hausarbeit.

This course is credited for „Optionalbereich“. No

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**NEW CHALLENGES OF HUMANITARIAN ACTION IN THE 21ST CENTURY**

**Language:** English

**Department:** Faculty of Social Science

**Contact:** Anke Moritz, +49 234 32 22966, international-services@sowi.rub.de

**Degree programme:** Bachelor

**Module:** International Structures and Processes (Part I)

Module taught entirely in foreign language: Yes

**Course type:** Seminar
Credit Points: Full module: 8CP; for information on creditation for only this part of the module please contact Anke Moritz.

Teacher/Lecturer: Prof. Dr. Dennis Dijkzeul

Requirements: This course is part of a module in the "Optionalbereich", but also open to B.A. students of social science, who participated in the module "Humanitarian Action in the 21st Century" (SoSe 2014) or in the lecture "Organizing Humanitarian Interventions in Humanitarian Crises" (080921, SoSe 2014). If students have acquired similar knowledge elsewhere, they have to contact Prof. Dr. Dennis Dijkzeul, E-Mail Adresse: Dennis.Dijkzeul@rub.de

Room
GBCF 04/711
Day, Time
Tuesday 10.15-11.45
Begin
07/10/2014

Course description:
This advanced course "New Challenges of Humanitarian Action in the 21st Century" builds further on the basic course "Organizing Interventions in Humanitarian Crises". The course consists of five interrelated sessions: 1. The politicization of humanitarian aid; 2. Humanitarian Aid and Conflict Transformation; 3. Local Perceptions of International Humanitarian Interventions; 4. Humanitarian Aid and Development Cooperation; and 5. Humanitarian Aid and Human Rights. Guest lectures by NGO representatives (report about their work in a crisis region as well as professional insights into technical engineering and medical issues) are also part of this course.

Proofs of academic achievement: For a proof of performance (Modulprüfung or Studienachweis) students have to participate in all classes and hold a presentation on the preceding lecture and its required literature (Referat with a 1-page Handout). Towards the end of the course, they also have to complete a written assignment (Final Exam) (only for the Modulprüfung).

This course is credited for „Optionalbereich“.

INTERNATIONALIZATION AND MOBILITY-DRIVEN DIVERSITY IN HIGHER EDUCATION INSTITUTIONS (PART II)

Language: English

Department: Faculty of Social Science
Contact: Anke Moritz, +49 234 32 22966, international-services@sowi.rub.de
Degree programme: Master
Module: Research Module
Module taught entirely in foreign language: Yes
Course type: Seminar
Credit Points: Full Module (First part in the summer term 2014): 14 CP
Teacher/Lecturer: Dr. Kyoko Shinozaki

Requirements: - Regular attendance and active participation
- Knowledge in qualitative and/or quantitative social research methods
- Approval of a group research proposal (due last semester; revised if necessary)
**Course description:**
Building on the part 1 of the module held in the summer semester, in the coming semester we will focus on fieldwork and data analysis. More specifically, we will carry out group fieldwork on one of the key actors (e.g. DAAD, International Office, international students, etc.) by conducting a survey, expert interviews with administrators and/or in-depth interviews with researchers/students. For data analysis, knowledge in quantitative and/or qualitative research methods (including descriptive statistics and regression, and problem-centered interview, biographical method, and grounded theory, respectively) is required.
I am planning to organize a project presentation towards the end of the semester. Due to the time dedicated for fieldwork and group-based consulting, the session does not take place weekly. A detailed schedule will be communicated on the first day of the class.

The internationalisation of higher education, involving the movement of students, faculty members and programmes across national borders, is occurring at speed and with increasing intensity. In 2008, 3.3 million students were enrolled on tertiary programmes outside their country of citizenship, that is an 8.2% increase from 2007 (OECD 2010). Germany has become one of the most popular destinations among students and visiting scholars from abroad while having registered the highest number of faculty members with non-German citizenship in this decade. How can we explain this happening in Germany, which has long been a self-claimed country of non-immigration? To what extent is the "internationalization" occurring, how is it defined and what are the methodological problems in researching the internationalization of higher education institutions (HEIs)? How do students and scientists experience their international mobility and migration? What role do HEIs and related organizations play in promoting or hindering the internationalization? When the management-driven notion of "diversity" gets emphasized, what repercussions may this have, especially in relation to social inequalities and disadvantages related to migration in the context of HEIs? What are conventional (predictable) patterns and newly emerging trends in the internationalization of HEIs (for example, USA and Canada, and China, respectively)?

This seminar investigates the process of internationalization and diversity driven by migration and mobility in HEIs in an international comparison. More specifically, we will discuss topics, including, but not limited to:

- Overlapping but different takes on the internationalization in HEIs: sociology of education, sociology of organization, migration studies, mobility studies
- Student mobilities: international students (degree mobility), ERASMUS programme (credit mobility)
- Mobile study programmes: offshore campus, branch, etc. (e.g. UK, China)
- International careers of scientists (e.g. Europe, US)
- Creating diversity or re-producing inequality along the social divisions of gender, ethnicity and
GLOBAL EUROPE. ACTORS, PROCESSES AND LABOR RIGHTS IN THE NEGOTIATION OF TRADE AGREEMENTS

Language: English

Department: Faculty of Social Science

Contact: Anke Moritz, +49 234 32 22966, international-services@sowi.rub.de

Degree programme: Master

Module: Labor Regulation and Participation (Part II), International Institutions and Processes (Part II), MEd module (FW; Part I)

Module taught entirely in foreign language: International Institutions and Processes, MEd (FW) only

Course type: Seminar

Credit Points: Full module: 9 CP; for information on creditation for only this part of the module please contact Anke Moritz.

Teacher/Lecturer: Prof. Dr. Sabrina Zajak

Requirements: The seminar will be conducted in English. The seminar is confined to 35 students. Registration in CampusOffice.

Room  Day, Time  Begin
GBCF 05/606  Tuesday 14.15 – 15.45  07/10/2014

Course description:

Since the stalemate of the WTO negotiations, the European Union is increasingly negotiating bilateral free trade agreements. While negotiations with countries such as Chile, South Korea, or South Africa have gained little public attention, the current negotiations of the Transatlantic Trade and Investment Partnership (TTIP) have triggered interest and public debate about the content and procedures of bilateral trade negotiations. Trade policy counts as the most undemocratic policy field within the European Union due to the lack of transparency of behind closed doors negotiations and the limited impact of parliaments. This seminar goes beyond the individual case of the EU-US negotiations and gives an overview on the development of trade negotiations in Europe, but also the attempts of different non-state actors (business, trade unions, social movements) to impact these negotiations. Following questions will be discussed: How did the trade policy field in Europe evolve? In how far did it democratize? What are the strategies and contents in past and ongoing trade negotiations? How are issues of trade, labor, and sustainability
linked? What kind of actors try to impact the negotiations and how? How can we explain the differences in the impact of non-state actors on bilateral negotiations?

Proofs of academic achievement: Active participation, oral presentation and final paper.

This course is credited for „Optionalbereich“. No
THE EU IN GLOBAL GOVERNANCE

Language: English

Department: Faculty of Social Science
Contact: Anke Moritz, +49 234 32 22966, international-services@sowi.rub.de
Degree programme: Master
Module: International Institutions and Processes (Part II), Analysing policy fields (Part II), MEd module (FW, Part I)
Module taught entirely in foreign language: International Institutions and Processes, MEd (FW) only
Course type: Seminar
Credit Points: Full module : 8CP ; for information on creditation for only this part of the module please contact Anke Moritz.
Teacher/Lecturer: Aukje van Loon
Requirements: Lecture „Introduction to International Relations“, register in CampusOffice.
Reading reports (one page/text) on the texts listed in the faculty's course list.

Room | Day, Time | Begin
--- | --- | ---
GCFW 04/304 | Thursday 10.15-11.45 | 09/10/2014

Course description:
The role of the European Union (EU) in global governance has been of growing interest over the past decade. The capacity of the EU to both formulate and realise its goals, however, remains contested as it is insufficiently able to produce a co-ordinated position in international politics. Nevertheless, the EU is a key player in international institutions and fora and its relationship with external partners has an increasingly important impact upon economic, political and security concerns on an international level. Trade negotiations, military interventions, democracy promotion, international development and responses to the global economic crisis have all witnessed the EU playing a central role. This seminar will focus on the EU as an international actor and its role, challenges and perspectives within global governance. The global power shift has changed the EU’s position towards its partners as well as its conduct of specific EU foreign policies, for example in trade, aid and development, security and defence, its support for multilateral institutions and towards regional approaches. Participating students will look into these specific EU foreign policies and explain, by applying IR theories and/or EU integration theories, EU foreign policy behaviour and decision-making.

Proofs of academic achievement:
Studienachweis: Regular and active participation, handing in reading reports in due time, giving a presentation including a „Thesenpapier“, power point presentation and discussion questions. A module exam may be completed in the form of an additional exam.

This course is credited for „Optionalbereich“. No
HUMAN RIGHTS IN INTERNATIONAL POLITICS

**Department:** Faculty of Social Science

**Contact:** Anke Moritz, +49 234 32 22966, international-services@sowi.rub.de

**Degree programme:** Master

**Module:** International Institutions and Processes (Part I), Analysing policy fields (Part I), MEd module (FW, Part I)

Module taught entirely in foreign language: Yes

**Course type:** Seminar

**Credit Points:** Full module: 9 CP; for information on creditation for only this part of the module please contact Anke Moritz.

**Teacher/Lecturer:** Dr. habil. Volker Heins

**Requirements:** Open to MA students. Please register through CampusOffice.

**Room**
GC 03/46

**Day, Time**
Monday, 10.15 – 13.45
(every 2 weeks)

**Begin**
06/10/2014

**Course description:**
The past decades have seen the development of a thickening set of international institutions that address the rights of individuals vis-à-vis their own governments. The purpose of this seminar is to deepen students' understanding of these rights by examining the relationship between international institutions, human rights, and politics. Taking the emergence of international human rights regimes as a form of transnational governance, this course explores the political conditions that influence the creation, acceptance, operation and effectiveness of the international rules governing human rights. The course will try to answer a series of questions such as the following: Why have human rights proven so salient in many parts of the world in the latter half of the twentieth century? Why do governments commit themselves to specific human rights treaties? Under what conditions do governments comply with the obligations contained in those treaties? What's the role of NGOs in creating and enforcing human rights? Are human rights compatible with non-Western societies? Is there a dark side to human rights?

**Proofs of academic achievement:** Active participation, one essay, one in-class exam.

This course is credited for „Optionalbereich“. No

EU INTEREST GROUPS; HOW TO LOBBY EU

**Department:** Faculty of Social Science

**Contact:** Anke Moritz, +49 234 32 22966, international-services@sowi.rub.de

**Degree programme:** Master

**Module:** Europeanization, Democracy and Governance (Part I), Representation of Interests (Part II)

Module taught entirely in foreign language: No
Course type: Seminar
Credit Points: Full module: 9 CP; for information on creditation for only this part of the module please contact Anke Moritz.
Teacher/Lecturer: Dr. Patrycja Rozbicka
Requirements: Please register in CampusOffice by October 17, 2014. Students without an ID are asked to register with the teacher by E-mail. A good command of English is required.

Room Day, Time Begin
GBCF 05/606 Wednesday, 14.15 – 15.45 08/10/2014

Course description:
Interest groups play major roles in national and European policy making. A variety of organizations, such as labor unions, trade associations, NGOs, and citizen groups try to advance their interests and of those they represent by getting involved in public policy making. Examining the mechanisms of interest representation is thus important for a good understanding of contemporary public policy making.
At the end of the course the students will have knowledge and will be able to: put theoretical knowledge on interest groups into practice, distinguish types of interest groups in the EU political system, and to specify procedures best for realization of the groups’ interests. The students will be able to locate the best opportunities for lobbying in the EU policy process, illustrate (in detail) the EU policy-making processes, and adjust a type of represented issue to a proper procedure. Furthermore, they will be prepared to justify positive and criticize negative influence of lobbying; as well as to accept the fact of an existence of multiple solutions.
The innovation of the course is in its practical approach. Usually similar studies leave students blank on the issue how their knowledge of the EU political system can be transported into real practice. The idea is that the course will fulfill that need. The biggest attention in the course is put on the practicality of the knowledge that students will obtain. Second in line will be a focus on the students’ skills to be able to implement that knowledge. The main focus of the course will be a role-playing-game, when students will have chance to become lobbyists on their own. They will have a chance to write their own position papers, participate in simulated consultations with the European Commission, and to work on the political dossier in similar way as real lobbyists.

Proofs of academic achievement: To acquire a 'Leistungsnachweis':
Assignment I
Class participation and attendance.
Short written case study analysis (3 papers, 2 pages long).
Assignment II
Role-playing game.
Assignment III
Final paper (10-15 pages long).

To acquire a 'Studienachweis':
Assignment I
Same as above
Assignment II
Same as above

This course is credited for „Optionalbereich“. No
KEYNOTES ON GENDER STUDIES: DIFFERENCES AND DISCUSSIONS

Language: English

Department: Faculty of Social Science
Contact: Anke Moritz, +49 234 32 22966, international-services@sowi.rub.de
Degree programme: Master
Module: Culture and Gender (Part I), Gender and Society (Part I)
Module taught entirely in foreign language: No
Course type: Seminar
Credit Points: Full module: 9 CP; for information on creditation for only this part of the module please contact Anke Moritz.
Teacher/Lecturer: Prof. Dr. Katja Sabisch
Requirements: -

Room Day, Time Begin
GBCF 04/300 Wednesday 10.15-11.45 08/10/2014

Course description:
In this seminar, we read and discuss basic texts of international Women and Gender Studies. After an introduction to the history of feminism in the 19th and 20th century, we will study theorists of the "post"-era such as Judith Butler or Gayatri Spivak to highlight prevailing theoretical and political discussions. We will discuss the construction and working mechanisms of gender identities and roles through an intersectional approach, within the wider context of various other strong and mutually nourishing forms of inequalities -on the levels of class, race, ecology, and discourse/representation- putting a strong emphasis on the complex, multi-layered and interdependent quality of various forms of injustice and on the significant role of discursive/representational practices as their formative elements.

Proofs of academic achievement: "Studiennachweis": Active Participation (working groups), oral presentation
"Leistungsnachweis": Active Participation (working groups), oral presentation, final paper

This course is credited for „Optionalbereich“. No

MATCHING METHODS FOR CAUSAL INFERENCE

Language: English

Department: Faculty of Social Science
Contact: Anke Moritz, +49 234 32 22966, international-services@sowi.rub.de
Degree programme: Master
Module: Methodological Aspects in the Analysis of Data in Social Sciences (Part I or II)
Module taught entirely in foreign language: No
Course type: Seminar
Credit Points: Full module: 9 CP; for information on creditation for only this part of the module please contact Anke Moritz.

Teacher/Lecturer: Sebastian Beil

Requirements: Participants should have a good understanding of descriptive and inferential statistics and some working knowledge of regression analysis. Please note that the course is taught in English.

Room | Day, Time | Begin
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GCFW 05/506 | Monday 10.15-11.45 | 06/10/2014

Course description:
The course will enable participants to think more clearly about causal relationships and ways to approach these using specific quantitative methods. We will start by discussing the concept of causality as it is commonly understood in the social sciences and introduce the potential outcome model. We then go on treating different kind of matching estimators that - under special circumstances - enable one to estimate well defined causal effects. In particular we will consider propensity score matching and Mahalanobis metric matching. Throughout the course we will work with the statistical software Stata.

Proofs of academic achievement:
"Modulprüfung": active participation, oral presentation or summary of an academic paper applying matching methods and final analysis.
"Studiennachweise": active participation and oral presentation or summary of an academic paper applying matching methods.

This course is credited for „Optionalbereich“. No

QUEER AND FEMINIST PSYCHOLOGIES

Language: English

Department: Faculty of Social Science
Contact: Anke Moritz, +49 234 32 22966, international-services@sowi.rub.de

Degree programme: Master

Module: Cultural psychology, cultural and social theory (Part I/II)
Module taught entirely in foreign language: No

Course type: Seminar

Credit Points: Full module: 9 CP; for information on creditation for only this part of the module please contact Anke Moritz.

Teacher/Lecturer: Anna Sieben

Requirements: This seminar will be taught in English - but it is not a seminar exclusively for advanced speakers. Please feel free to participate and to practice your English! I am not a native speaker myself and I will use the seminar to practice, just like you do.
Course description:
This seminar presents queer and feminist approaches in psychology. Firstly, we will define and discuss what we mean by "psychology", "queer perspectives" and "feminism" and try out different ways of combining these diverse projects. What is "feminist science"? Can psychological research be political/critical and at the same time scientific/objective?
Secondly, we will look into different approaches which are either explicitly feminist/queer or which are directly relevant for feminist research but do not call themselves feminist/queer, such as:
" Social psychological work on gender stereotypes, prejudices, discrimination,
" Feminist elaborations of psychoanalysis,
" Critical inquiries of gender differences and similarities (for example in relation to intelligence),
" Masculinity studies,
" Psychological studies on queer life, for example LGBT parenting.
Proofs of academic achievement: Studiennachweis: presentation
Leistungsnachweis: presentation und poster

This course is credited for „Optionalbereich“. No
This course addresses the ideas and practices of humanitarianism, in particular the politics and management of humanitarian crises and organizations. In this vein, the course also discusses the main critiques of humanitarian action and possible alternatives. The course follows the idea that humanitarian aid should be provided from a long-term perspective, otherwise it can either reinforce conflict and exclusion and neglect the root causes of (complex) crises or hinder access at a later stage of the crisis or during other crises. The course consists of four interrelated sessions: 1. Contexts, concepts and strategies of humanitarian action; 2. Actors and organizations; 3. Cross-cutting issues; 4. The Democratic Republic of the Congo. Guest lectures from NGO representatives (report about their work in a crisis region and provide professional insights into technical engineering and medical issues) are also part of this course.

Proofs of academic achievement: Leistungsnachweise: For a proof of performance (Modulprüfung or Studiennachweis) students have to participate in all classes and hold a presentation on the preceding lecture and its required literature (Referat with a 1-page Handout). Towards the end of the course, they also have to complete a written assignment (Final Exam) (only for the Modulprüfung).

This course is credited for „Optionalbereich“. Yes
INSTITUTE FOR NEURAL COMPUTATION

MACHINE LEARNING: UNSUPERVISED METHODS

Language: English

Department: Institut für Neuroinformatik
Contact: Dr. Rolf Würtz, Tel: 0234/32-27994, Email: rolf.wuertz@ini.rub.de
Degree programme: Master
Module: Module taught entirely in foreign language: yes
Course type: Lecture and Tutorial
Credit Points: 6
Teacher/Lecturer: Prof. Dr. Laurenz Wiskott

Requirements: Mathematics required include calculus (functions, derivatives, integrals, differential equations, ...), linear algebra (vectors, matrices, inner product, orthogonal vectors, basis systems, ...), and a bit of probability theory (probabilities, probability densities, Bayes' theorem, ...).

Room Day, Time Begin
NB 3/57 Tuesday, 12.15 - 13.45 07/10/14

Course description:
This course covers a variety of unsupervised methods from machine learning such as principal component analysis, independent component analysis, vector quantization, clustering, self-organizing maps, growing neural gas, Bayesian theory and graphical models. We will also briefly discuss reinforcement learning.

The mathematical level of the course is mixed but generally high. The tutorial is almost entirely mathematical.

Criteria for a certificate for the tutorial are an active participation, in particular presentation of selected exercises, and at least 50% in the final exam.

This course can be given in English upon request. Course material (lecture notes and exercise sheets) will be in English in any case.

Proofs of academic achievement: oral examination

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no

COMPUTATIONAL NEUROSCIENCE: NEURAL DYNAMICS

Language: English

Department: Institut für Neuroinformatik
Contact: Dr. Rolf Würtz, Tel: 0234/32-27994, Email: rolf.wuertz@ini.rub.de
Degree programme: Master
Module:
Module taught entirely in foreign language: yes
Course type: Lecture and Tutorial
Credit Points: 6
Teacher/Lecturer: Prof. Dr. Gregor Schöner
Requirements: none

Room    Day, Time    Begin
NB 3/57  Thursday, 14.15 - 16.00  09/10/14

Course description:
This course provides an introduction into the theoretical cognitive and systems neurosciences from a particular theoretical vantage point, the dynamical systems approach. This approach emphasizes the evolution in time of behavioral and neutral patterns as the basis of their analysis and synthesis. Dynamic stability, a concept shared with the classical biological cybernetics framework, is one cornerstone of the approach. Instabilities (or bifurcations) extend this framework and provide a basis for understanding flexibility, task specific adjustment, adaptation and learning.

The course includes tutorial modules which provide mathematical foundations. Theoretical concepts are exposed in reference to a number of experimental model systems which will include the coordination of movement, postural and configurational stability, the perception of motion and elementary forms of spatial cognition. In the spirit of Braitenberg`s "synthetic psychology", autonomous robots will be used to illustrate some of the ideas.

Exercises are integrated into the lectures. They consist of elementary mathematical exercises, the design of (thought) experiments and their analysis and the design of simple artificial systems, all on the basis of the theoretical framework exposed in the main lectures.

Proofs of academic achievement: written examination

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no

ARTIFICIAL NEURAL NETWORKS

Language: English

Department: Institut für Neuroinformatik
Contact: Dr. Rolf Würtz, Tel: 0234/32-27994, Email: rolf.wuertz@ini.rub.de
Degree programme: Bachelor
Module:
Module taught entirely in foreign language: yes
Course type: Lecture and Tutorial
Credit Points: 5
Teacher/Lecturer: PD Dr. Rolf Würtz
Requirements: none

Room  | Day, Time  | Begin
------|------------|------
HZO 100 | Friday, 12:15-14:00 | 10/10/14

Course description:
This lecture presents standard algorithms and new developments of feedforward Artificial Neural Networks, their functioning, application domains, and connections to more conventional mathematical methods. Examples show the potential and limitations of the methods. Supervised as well as unsupervised learning methods are introduced.

In detail:
1) Introduction, some biological facts
2) Mathematical foundations: probability theory and partial derivatives
3) One-layer networks and linear discriminants
4) Multilayer networks and error backpropagation
5) Universality of two-layer networks
6) Radial basis function networks
7) Neuronal maps: Kohonen network, Growing Neural Gas
8) Optimization methods

The course will be given in English upon request.

Proofs of academic achievement: oral presentation

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no

GENERATIVE AND DEVELOPMENTAL SYSTEMS

Language: English

Department: Institut für Neuroinformatik
Contact: Dr. Rolf Würtz, Tel: 0234/32-27994, Email: rolf.wuertz@ini.rub.de
Degree programme: Master
Module: Module taught entirely in foreign language: yes
Course type: Seminar
Credit Points: 3
Teacher/Lecturer: Dr. Martin Pyka
Requirements: none
**Course description:**
Current issues of the artificial development of structures (in particular of artificial neural networks) are discussed in this seminar. The focus is on description languages inspired by biological encoding systems (DNA, gene regulatory networks), principles of self-organization and convenient evolution strategies for the development of scalable solutions.

The participants give oral presentations, the topics of which are assigned in the first seminar.

The course is given in English upon request.

**Proofs of academic achievement:** oral presentation

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no

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**MACHINE LEARNING: EVOLUTIONARY ALGORITHMS**

**Language:** English

**Department:** Institut für Neuroinformatik

**Contact:** Dr. Rolf Würtz, Tel: 0234/32-27994, Email: rolf.wuertz@ini.rub.de

**Degree programme:** Master

**Module:**
Module taught entirely in foreign language: yes

**Course type:** Lecture and Tutorial

**Credit Points:** 6

**Teacher/Lecturer:** Jun.-Prof. Dr. Tobias Glasmachers

**Requirements:** The course is designed for Master students of the Angewandte Informatik program. The lecture "Mathematics for Modeling and Data Analysis" is recommended as a background.

**Course description:**
Evolutionary Algorithms are randomized search and optimization heuristics inspired by principles of biological evolution. The field aims to exploit the principle of the "survival of the fittest" for the solution of technical problems. The resulting optimization algorithms are conceptually simple, widely applicable, and easy to implement. Evolutionary search has applications in science and engineering for the approximate solution of difficult "black box" problems.

The lecture starts by developing the basic evolutionary optimization model. Various aspects of evolutionary search in discrete and continuous search spaces are discussed in detail, resulting in a
systematic taxonomy of largely modular building blocks. Finally, the evolutionary process is
embedded into the theoretical framework of optimization on statistical manifolds.

The course consists of a lecture (two hours/week), which is accompanied by a practical course
(also two hours/week). It will be held either in German or in English, depending on the audience.
Most of the course material will be in English.

**Proofs of academic achievement:** written examination

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no
INSTITUTE OF DEVELOPMENT RESEARCH AND DEVELOPMENT POLICY

SOCIAL SCIENCES PERSPECTIVES ON DEVELOPMENT AND UNDERDEVELOPMENT

Language: english

Department: IEE - Institut für Entwicklungsforschung und Entwicklungspolitik
Degree programme: Master of Arts Development Management
Contact: Dr. Tobias Thürer, 0234-32-22458, Tobias.Thuerer@rub.de
Module: Name Theories of development and underdevelopment - Module taught entirely in foreign language: yes
Course type: Seminar, including Group Work and Short Presentations
Credit Points: 6
Teacher/Lecturer: Dr. Stefan Buchholz/ Anne Siebert
Requirements: Admission to the MA Development Management

Course description:
The students are able to understand the international discourse about development success and failure based on relevant development theories from social science and economics. They have gained insights into those factors which are made responsible for promoting or obstructing socio-economic development. This enables them to analyse the relevance of different determinants of development and to derive theory-based hypotheses about the effects of development programs and projects and other types of public interventions on the realisation of development goals.

1 What is Development and Underdevelopment?
2 How to define the Developing World
3 Theory and Strategy: Explaining Development and Developing Adequate Strategies Part I:
4 Theory and Strategy: Explaining Development and Developing Adequate Strategies Part
5 Conclusion: Theories about Development and Underdevelopment

Proofs of academic achievement: Paper of 10 pages

This course is credited for „Optionalbereich“. No
This course is especially suitable for exchange students. No

ECONOMIC PERSPECTIVES ON DEVELOPMENT AND UNDERDEVELOPMENT

Language: english
International seminars and lectures

Department: IEE - Institut für Entwicklungsforschung und Entwicklungspolitik
Degree programme: Master of Arts Development Management
Contact: Dr. Tobias Thürer, 0234-32-22458, Tobias.Thuerer@rub.de
Module: Theories of development and underdevelopment - Module taught entirely in foreign language: yes
Course type: Seminar
Credit Points: 6
Teacher/Lecturer: Prof. Dr. W. Löwenstein
Requirements: Economic Tutorial or proven Economic Knowledge; Admission to the MA Development Management

Room  Day, Time  Begin
GB 1/144  every Monday and Thursday 27.10.2014
from 9.00 until 13.45

Course description:
The students are able to understand the international discourse about development success and failure based on relevant development theories from social science and economics. They have gained insights into those factors which are made responsible for promoting or obstructing socio-economic development. This enables them to analyse the relevance of different determinants of development and to derive theory-based hypotheses about the effects of development programs and projects and other types of public interventions on the realisation of development goals.

1 Introduction: Development Economics and Development Policy
2 Sources of Economic Development
3 Development Strategies of Developing Countries, Trade and Growth
4 Development Aid/Assistance
5 Achievements of Development Policy.

Proofs of academic achievement: Written Exam of 120 Minutes
This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no

METHODS OF EMPIRICAL SOCIAL RESEARCH - STATISTICS

Language: english

Department: IEE - Institut für Entwicklungsforschung und Entwicklungspolitik
Degree programme: Master of Arts Development Management
Contact: Dr. Tobias Thürer, 0234-32-22458, Tobias.Thuerer@rub.de
Module: Methods of Empirical Social Research Module taught entirely in foreign language: yes
Course type: Lecture
Credit Points: 6
Teacher/Lecturer: Prof. Dr. W. Voss/ Stefan Buchholz
**Requirements:** Admission to the MA Development Management

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<th>Room</th>
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<tr>
<td>GC 03/42</td>
<td>two weeks long Block Course, 9.00 - 17.00</td>
<td>16.09.-25.09.2014</td>
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**Course description:**
By the end of the course, the students are able to handle basic statistical measurements such as percentages, averages and spreads. They are also enabled to describe a given quantitative data set with appropriate statistical methods and to carry out necessary calculations. Some basics concerning the design and validation of statistical charts and tables are mastered. Furthermore, the students are able to formulate statistical hypotheses about the relationships between variables and check them.

1. Introduction: Methods and problems of empirical research. Statistical Variables
2. Presentation of statistical data: Tables and Charts
3. Means (Averages)
4. Measures of dispersion (Spreads)
5. Regression analysis
6. Correlation analysis
7. Chi-Squared Test.

**Proofs of academic achievement:** Written Exam

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no

**INSTITUTIONS & DEVELOPMENT**

**Language:** english

**Department:** IEE - Institut für Entwicklungsforschung und Entwicklungspolitik

**Degree programme:** Master of Arts Development Management

**Contact:** Dr. Tobias Thürer, 0234-32-22458, Tobias.Thuerer@rub.de

**Module:** Institutions & Development
Module taught entirely in foreign language: yes

**Course type:** Seminar

**Credit Points:** 6

**Teacher/Lecturer:** Ruth Knoblich

**Requirements:** Admission to the MA Development Management

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<tr>
<td>GB 1/144</td>
<td>two weeks long Block Course, 9.00 - 15.00</td>
<td>3.11.-14.11.2014</td>
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**Course description:**
Students are aware of the major institutional determinants of development and are enabled to conduct a systematic and theory guided analysis of institutional developmental issues with respect to foreign aid provision, SME development, environmental problems, and agricultural contracting, among others.

1. Introduction to Institutions and Development: What are Institutions?
2. The Toolbox of the Institutional Analyst: How to Approach Institutions?
3. Institutions as Independent Variable: In How Far Do Institutions Matter for Development?
4. Summary, Critique and Outlook: Which institutions matter more/most for Development?

Proofs of academic achievement: Written Exam

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no

DEVELOPMENT COOPERATION: ACTORS AND ROLES

Language: english

Department: IEE - Institut für Entwicklungsforschung und Entwicklungspolitik
Degree programme: Master of Arts Development Management
Contact: Dr. Tobias Thürer, 0234-32-22458, Tobias.Thuerer@rub.de
Module: Actors in Development Cooperation
Module taught entirely in foreign language: yes
Course type: Seminar
Credit Points: 3
Teacher/Lecturer: Prof. Dr. Uwe Andersen
Requirements: Admission to the MA Development Management

Room: GB 1/144
Day, Time: week long Block Course, 9.00 - 15.00
Begin: 1.-5.12.2014

Course description:
Students have gained an overview over relevant actors in the field of international development cooperation with a special focus on International Governmental Organisations (IGOs) and International Non-Governmental Organisations (INGOs). They know about distinguishing criteria of these actors, their formal structures, their ‘modi operandi’ as well as their development over time are considered with the help of real world examples.

Proofs of academic achievement: Oral Exam

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. yes
PUBLIC SECTOR MANAGEMENT

Language: english

Department: IEE - Institut für Entwicklungsforschung und Entwicklungspolitik
Degree programme: Master of Arts Development Management
Contact: Dr. Tobias Thürer, 0234-32-22458, Tobias.Thuerer@rub.de
Module: Actors in Development Cooperation
Module taught entirely in foreign language: yes
Course type: Seminar
Credit Points: 3
Teacher/Lecturer: N.N.

Requirements: Admission to the MA Development Management

Room Day, Time Begin
GB 1/144 week long Block Course 15.-19.12.2014

Course description:
The major aspects of public administration and the challenges the public sectors of developing countries are faced with are introduced to the students. They are enabled to take a comprehensive and interdisciplinary perspective on the complex facets of administration in developing countries.

The course deals with the basics of public sector management - bureaucracy, development administration and New Public management. The course will be based mainly on political analysis although it touches on other academic disciplines such as management or economic theory.

1 Introduction to Public Sector Management
2 The Theory of Bureaucracy
3 From Administration to Management
4 The need for reforms

Proofs of academic achievement: Oral Exam

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. yes

ECONOMIC TUTORIAL

Language: english

Department: IEE - Institut für Entwicklungsforschung und Entwicklungspolitik
Degree programme: Master of Arts Development Management
Contact: Dr. Tobias Thürer, 0234-32-22458, Tobias.Thuerer@rub.de
Module: Economic Tutorial
Module taught entirely in foreign language: yes/no yes
Course type: Seminar
Credit Points: 0
Teacher/Lecturer: Dr. Gabriele Bäcker
Requirements: Admission to the MA Development Management

Room  | Day, Time                | Begin       
GB 1/144 | week long Block Course  | 13.-17.10.2014.  
       | 9.00 - 15.00            |             

Course description:
The course is especially targeted at non-economists and enables those students not familiar with economic theories and approaches with the necessary understanding to successfully participate in subsequent economics-oriented courses.

The course teaches the basic concepts and tools of economic analysis. The course will mainly focus on microeconomics, i.e. the analysis of economic problems from the perspective of the individual which fits well to the actors-oriented approach of the program. In addition some macroeconomic-basics are covered.

1  Economic Theory
2  Microeconomics
3  Macroeconomics: Basic Concepts

Proofs of academic achievement: none

This course is credited for „Optionalbereich“. no
This course is especially suitable for exchange students. no
INTERNATIONAL ENGLISH LANGUAGE PHD PROGRAM IN INTERNATIONAL DEVELOPMENT STUDIES

The international English language PhD program in International Development Studies is an interdisciplinary and structured programme. It is offered at the Institute of Development Research and Development Policy (IEE) in collaboration with the Faculties of Geography, Law, Social Science and Economics. Teaching modules deal with developmental issues from a multidisciplinary perspective. These seminars are complemented by courses on qualitative and quantitative methods frequently used in development research. Courses usually offered in the winter term include the Lecture Cycle “International Development Studies” in addition to seminars such as “Growth and Development” or “Political Science Perspectives on Development Policy”. Regularly updated information on the PhD IDS and the program’s course structure can be found on our website http://www.development-research.org/phd-international-development-studies.html

For any further information please contact the coordinator of the PhD IDS, Dr. Anja Zorob
INTERDISCIPLINARY CENTRE FOR ADVANCED MATERIALS SIMULATION (ICAMS)

MULTISCALE MODELLING IN MATERIALS SCIENCE

Language: English

Department: Interdisciplinary Centre for Advanced Materials Simulation (ICAMS)
Contact: mss@icams.rub.de, phone: 0234 32 29332
Degree programme: Master
Module: Module taught entirely in foreign language: Yes
Course type: Lecture with exercises
Credit Points: 6
Teacher/Lecturer: Prof. Dr. Alexander Hartmaier, Prof. Dr. Ingo Steinbach, Dr. Thomas Hammerschmidt
Requirements: Successful completion of modules “Introduction to Quantum Mechanics/Statistical Physics and Thermodynamics” or “Assessment and Description of Materials Properties”

Room: ICAMS seminar room and ICAMS CIP-Pool
Day, Time: Tuesday, 10.00-14.00
Begin: 07/10/2014

Course description:
Learning outcomes: The students gain knowledge about the different length and time scales on which the phenomena and mechanisms of material behaviour occur. They will furthermore understand the different levels to describe these phenomena and the existing approaches to bridge and integrate these scales, including their range of validity. They build up the skills to independently develop scale-bridging models that integrate all necessary scales and to employ these models to describe and predict materials behaviour under given conditions.

Proofs of academic achievement: practical exercises, written examination

This course is credited for „Optionalbereich“. Yes

ELEMENTS OF MICROSTRUCTURE

Language: English

Department: Interdisciplinary Centre for Advanced Materials Simulation (ICAMS)
Contact: mss@icams.rub.de, phone: 0234 32 29332
Degree programme: Master
Module: Module taught entirely in foreign language: Yes
Course type: Lecture
Credit Points: 3
Teacher/Lecturer: Jun.-Prof. Dr. Victoria Yardley
Requirements: Bachelors degree in mechanical engineering, chemistry, physics, nanotechnology, mathematics or computer science or related disciplines.

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<td>ICAMS CIP-Pool</td>
<td>Thursday, 14.00-16.00</td>
<td>09/10/2014</td>
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Course description:
The students have a first qualitative and comprehensive view on material microstructures. They know about the specific features of amorphous and crystalline solids. Most importantly they can appreciate 0- to 3-dimensional crystal defects (vacancies, dislocations, interfaces, precipitates, inclusions, voids) as elements of microstructure and know about their basic properties (formation, thermodynamic aspects, atomistic and micromechanical aspects, influence on materials kinetics and materials strength). The students also learn about basic characterization techniques (microscopy and diffraction).

Proofs of academic achievement: written examination

This course is credited for „Optionalbereich“. Yes

CONTINUUM METHODS IN MATERIALS SCIENCE

Language: English

Department: Interdisciplinary Centre for Advanced Materials Simulation (ICAMS)
Contact: mss@icams.rub.de, phone: 0234 32 29332

Degree programme: Master

Module:
Module taught entirely in foreign language: Yes

Course type: Lecture with exercises
Credit Points: 4

Teacher/Lecturer: Prof. Dr. Alexander Hartmaier, Prof. Dr. Ingo Steinbach

Requirements: Completion of modules “Assessment and Description of Materials Properties” and “Statistical Physics and Thermodynamics” or equivalent.

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<tr>
<td>ICAMS seminar room and</td>
<td>Thursday, 12.30-15.00</td>
<td>09/10/2014</td>
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<td>ICAMS CIP-Pool</td>
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Course description:
Learning outcomes: Successful students understand the underlying principles of the finite element method to solve problems in solid mechanics with sound descriptions of the mechanical properties of materials and the phase field method to solve free boundary problems coupled to a thermodynamic material description. Both methods represent widely-used numerical tools in industrial and academic materials science. The students develop skills to model and solve
materials science problems with the help of these two methods and they also understand the limitations of the methods and where they cannot be used.

Proofs of academic achievement: written examination

This course is credited for „Optionalbereich“. Yes

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**ATOMISTIC SIMULATION METHODS**

Language: English

**Department:** Interdisciplinary Centre for Advanced Materials Simulation (ICAMS)

**Contact:** mss@icams.rub.de, phone: 0234 32 29332

**Degree programme:** Master

**Module:**
Module taught entirely in foreign language: Yes

**Course type:** Lecture/Seminar

**Credit Points:** 4

**Teacher/Lecturer:** Prof. Dr. Ralf Drautz, Dr. Jörg Koßmann

**Requirements:** Successfully completed modules “Quantum Mechanics in Materials Science” and “Microstructure and Mechanical Properties”

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<tr>
<td>ICAMS seminar room and ICAMS CIP-Pool</td>
<td>Monday, 9.00-10.30 and Tuesday, 16.15-17.45</td>
<td>06/10/2014</td>
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**Course description:**
The students will be acquainted with models for the inter-atomic interaction and understand how these interactions can be represented by potentials. They learn how to use such molecular dynamics and kinetic Monte Carlo simulations to calculate the evolution of the atomic structure of materials and the resulting material properties. They understand the importance of the time and length scales in atomic modeling. The successful participants will be able to apply atomistic simulation methods to solve materials science problems.

Proofs of academic achievement: written examination

This course is credited for „Optionalbereich“. Yes
MEDICAL FACULTY

WORKSHOP: BASICS OF IMMUNHISTOCHEMICAL STAINING TECHNIQUES - SPECIALS ON: DOUBLE FLUORESCENT LABELLING & IN SITU HYBRIDIZATION (209 282)

Language: English

Department: Neurophysiology
Degree programme: -
Module: Module taught entirely in foreign language: yes
Course type: Workshop
Credit Points: 2
Teacher/Lecturer: Prof. Dr. Klaus Funke
Requirements: -

Room | Day, Time | Begin
--- | --- | ---

Course description:
Theory and practical courses. Registration by email to klaus.funke@rub.de

Proofs of academic achievement: -

This course is credited for „Optionalbereich“. yes
This course is especially suitable for exchange students. no

IMMUNOTHERAPY AND PROPHYLAXIS OF INFECTIOUS DISEASES

Language: English

Department: Department of molecular and medical Virology
Contact: Jun.-Prof. Tenbusch, 27834, Matthias.tenbusch@rub.de
Degree programme: Master/PhD
Module: Immunotherapy and Prophylaxis of Infectious Diseases
Module taught entirely in English
Course type: Seminar
Credit Points: 4-5 CP
Teacher/Lecturer: Jun.-Prof. Tenbusch/Prof. Überla
Requirements: Bachelor Degree in Biochemistry or Biology

Room | Day, Time | Begin
--- | --- | ---
HMA-40 | Friday 15.15-16.45 | Preliminary meeting: 8/10/14 in Room MA 3/146
Course description:
The seminar combines basic knowledge on infection & immunology with recent advances in the research field of therapeutic and prophylactic treatments against infectious diseases. This includes topics like T-and B-cell responses to viral infections, vaccine development or therapeutic gene-based approaches against cancer or autoimmunity. The single lectures will be divided in a introductory presentation of the lecturer followed by student’s presentations referring to recent research publications.

Proofs of academic achievement: 1x paper presentation / final oral examination

This course is credited for „Optionalbereich“.

BIOGENESIS OF CELL ORGANELLES

Language: English

Department: Physiology Chemistry/ Systems Biochemistry
Contact: Prof. Dr. Ralf Erdmann, Tel: 0234/32-24943, Email: ralf.erdmann@rub.de

Degree programme: Master of Science Biochemistry

Module: Advanced Practical in the Focal Point Programme: “Molecular Medicine”
Module taught only partly in English

Course type: Compact course

Credit Points: 7,5 (of 15)

Teacher/Lecturer: Prof. Dr. Ralf Erdmann

Requirements: A five-week all-day practical lab course with a compulsory seminar presentation. Please note: A second Advanced Practical will have to be performed in the same semester to earn the full complement of 15 credits

Room MA 4/ 142 Day, Time on demand Begin

Course description:
Active participation, feedback during independently performed experiments, project discussions with the supervisor. After completion of the course, students will have acquired basic practical skills in biochemical, microbiological and molecular biological methods. The students will be able to cultivate pro- and eucaryotic cells, to isolate protein-complexes by affinity chromatography and to characterize these complexes according to their size (size-exclusion chromatography) and constituents (SDS-PAGE, immuno-blotting). Students will learn how state-of-the-art molecular cell biological methods are used to tackle the structure and function of cellular nanomachines. Communication and collaboration skills will be improved by working hand in hand with the advising members of the research laboratory together with other lab members. Presentation skills will be improved by learning how to present scientific data in talks and scientific discussions as well as in a written thesis.

Topics:
- Characterization of metabolite transport across the peroxisomal membrane
- Dissection of the peroxisomal protein import machinery
- Characterization of the fusion/fission machinery of peroxisomes
- Structure and function of the peroxisomal nano-maschine complex Pex1p/Pex6p, two AAA-ATPases.
- The biogenesis of Lipid-droplets in yeast
- Human cell-lines as a tool to study diseases caused by an affected peroxisomal biogenesis

Methods:
- Cultivation of Bakers yeast
- Cell culture of human fibroblasts cells
- Different techniques for cell breakage
- Cell fractionation and isolation of cellular membranes
- Separation of protein mixtures and protein complexes by SDS polyacrylamid gel electrophoresis
- Western blotting and immunodetection
- Size-exclusion chromatography
- (convocal) fluorescence microscopy
- Molecular biology (cloning, site-directed mutagenesis, gene disruption, gene repacement)
- Purification of recombinant proteins
- Protein-protein interaction assays

Proofs of academic achievement: Assessment of experimental skills during the practical (50%), a written project report (40%), and a seminar presentation of experimental results (10%).

This course is credited for „Optionalbereich“.

CHARACTERIZATION OF PROTEINS ISOLATED FROM Peroxisomes AND Peroxisomal membranes OF THE Yeast Saccharomyces cerevisiae

Language: English

Department: Physiology Chemistry/ Systems Biochemistry
Contact: Prof. Dr. Ralf Erdmann, Tel: 0234/32-24943, Email: ralf.erdmann@rub.de
Degree programme: Master of Science Biochemistry
Module: Modular Advanced Practical and Seminar in the Focal Point Programme "Molecular Medicine"
Module taught entirely in English
Course type: Compact course
Credit Points: 5,3
Teacher/Lecturer: Prof. Dr. Ralf Erdmann
Requirements: Two weeks advanced laboratory course with an intergrated seminar

Course description:
Active participation in the laboratory tasks and seminar, feedback during the experiment, participation in laboratory seminars/scientific presentation.
After completion of the course, students will have acquired basic practical skills in biochemical, microbiological and molecular biological methods. The students will be able to isolate protein-complexes by affinity chromatography and to characterize these complexes according to their size (size-exclusion chromatography) and constituents (SDS-PAGE, immuno-blotting). Students will learn how state-of-the-art molecular cell biological methods are used to tackle the structure and
function of cellular nanomachines with the peroxisomal protein translocation apparatus as an example. Communication and collaboration skills will be improved by working in a small team of 2-3 students advised by members of the research laboratory. Presentation skills will be improved by learning how to present scientific data in talks and scientific discussions.

Topics:
Characterization of metabolite transport across the peroxisomal membrane
Dissection of the peroxisomal protein import machinery
Structure and function of the peroxisomal nano-maschine complex Pex1p/Pex6p, two AAA-ATPases.

Methods:
• Cultivation of Bakers yeast
• Different techniques for cell breakage
• Cell fractionation and isolation of cellular membranes
• Separation of protein mixtures and protein complexes by SDS polyacrylamid gel electrophoresis
• Western blotting and immunodetection
• Size-exclusion chromatography

Proofs of academic achievement: Assessment of active and successful participation in the practical (50%) and a written project report (50%)

This course is credited for „Optionalbereich“.

ACTUELLE ISSUES AND METHODS OF MOLECULAR CELLBIOLOGY

Language: English

Department: Physiology Chemistry/ Systems Biochemistry
Contact: Prof. Dr. Ralf Erdmann, Tel: 0234/32-24943, Email: ralf.erdmann@rub.de
Degree programme: Bachelor/ Master/ PhD
Module: Journals Club
Module taught entirely in English
Course type: Seminar
Credit Points: 1
Teacher/Lecturer: Prof. Dr. Ralf Erdmann
Requirements: n.s.

Room
MA 4/ 139
Day, Time
Friday 12:15 – 13:45 h
Begin
biweekly

Course description:
Presentation and discussion in english language

Proofs of academic achievement: no

This course is credited for „Optionalbereich“.
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