



JACOBS
UNIVERSITY



Study Program Handbook

Global Economics and Management

Bachelor of Arts

Subject-specific Examination Regulations for Global Economics and Management (Fachspezifische Prüfungsordnung)

The subject-specific examination regulations for Global Economics and Management are defined by this program handbook and are valid only in combination with the General Examination Regulations for Undergraduate degree programs (General Examination Regulations = Rahmenprüfungsordnung). This handbook also contains the program-specific Study and Examination Plan (see Chapter 6).

Upon graduation, students in this program will receive a Bachelor of Arts (BA) degree with a scope of 180 ECTS (for specifics see Chapter 6 of this handbook).

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1 Program Overview

1.1 Concept

1.1.1 The Jacobs University Educational Concept

Jacobs University aims to educate students for both an academic and a professional career by emphasizing four core objectives: academic quality, self-development/personal growth, internationality and the ability to succeed in the working world (employability). Hence, study programs at Jacobs University offer a comprehensive, structured approach to prepare students for graduate education as well as career success by combining disciplinary depth and interdisciplinary breadth with supplemental skills education and extra-curricular elements.

In this context, it is Jacobs University's aim to educate talented young people from all over the world, regardless of nationality, religion, and material circumstances, to become citizens of the world who are able to take responsible roles for the democratic, peaceful, and sustainable development of the societies in which they live. This is achieved through a high-quality teaching as well as manageable study loads and supportive study conditions. Study programs and related study abroad programs convey academic knowledge as well as the ability to interact positively with other individuals and groups in culturally diverse environments. The ability to succeed in the working world is a core objective for all study programs at Jacobs University, both in terms of actual disciplinary subject matter and also to the social skills and intercultural competence. Study-program-specific modules and additional specializations provide the necessary depth, interdisciplinary offerings and the minor option provide breadth while the university-wide general foundation and methods modules, mandatory German language requirements, and an extended internship period strengthen the employability of students. The concept of living and learning together on an international campus with many cultural and social activities supplements students' education. In addition, Jacobs University offers professional advising and counseling.

Jacobs University's educational concept is highly regarded both nationally and internationally. While the university has consistently achieved top marks over the last decade in Germany's most comprehensive and detailed university ranking by the Center for Higher Education (CHE), it has also been listed by the renowned Times Higher Education (THE) magazine as one of the top 300 universities worldwide (ranking group 251-300) in 2019, 2020 and 2021. The THE ranking is considered as one of the most widely observed university rankings. It is based on five major indicators: research, teaching, research impact, international orientation, and the volume of research income from industry.

1.1.2 Program Concept

The Global Economics and Management (GEM) study program is among the Jacobs University's longest standing programs. In line with the university's chief mission, the GEM program delivers high quality research and teaching to train students from all over the world in the economic analysis and managerial skills they need to understand and address complex global problems affecting markets, organizations and society. Students explore questions of utmost importance to contemporary economies and public affairs, such as: How do economic agents contribute to and how are they impacted by global economic dynamics such as trade, growth and inequality? How do governments respond to the challenges of climate change and environmental

sustainability? And how do economic agents bring about and purposefully manage institutional change?

The purpose of the GEM study program is to enable graduates to take an active role in shaping future economic and social processes. This program therefore combines the disciplines of Economics and Management Studies. Economics studies examine how individuals, households, firms and governments make decisions regarding the production, distribution, acquisition and allocation of scarce resources. The Management discipline studies the design and administration of firms, nonprofits and public organizations, as well as the consequences of managerial actions and decisions on individuals, society and economies. Students discover the mechanisms connecting globalized economic dynamics, business interests, and managerial action to prepare them for future responsibilities in an increasingly interconnected world, shedding light on issues such as inequalities, economic development, global trade, and climate change. This scientific education offers a solid foundation in quantitative techniques and introduces students to qualitative research methods as well. Their work in seminars is designed to develop skills in professional communication, writing, and problem-solving and to help students develop their academic and professional profiles.

Our learning and teaching methods rely on a mix of lectures, seminars and tutorials. The lectures and seminars provide introductions to fundamental knowledge in general fields of economics and management. We encourage interactivity during these sessions through a variety of inputs, including group discussions of academic papers, case studies using the Harvard case method, exercises, role-playing, and workshop-like sessions on writing and presenting skills. Accompanying tutorials help the students to prepare and review the material and to prepare for the examinations.

1.2 Specific Advantages of the Global Economics and Management Program at Jacobs University

Jacobs University students can choose to specialize in GEM or to combine their GEM studies with a minor from another discipline at Jacobs University, such as International Relations: Politics and History, Integrated Social Sciences, Psychology, Earth and Environmental Sciences, Industrial Engineering and Management, or Computer Science. Upon completing the program, typical GEM graduates have acquired knowledge in their academic fields of choice, and developed scientific rigor and ethics, reflexivity, and the capacity to integrate multiple disciplines, points of view and opinions into their decisions. These qualities qualify them for graduate studies in the fields of economics, development studies, management, and business administration, as well as for positions as consultants, analysts and roles in business development more generally.

Economics and management are two disciplines that complement each other. In most professions, both perspectives are needed. Managers need to understand the greater economic environment in which they operate; and national and international governmental institutions need to understand how private organizations and businesses are run. As Jacobs University's campus includes students from more than 100 countries on the Jacobs University campus, GEM graduates are in the best environment to discuss and understand why the prior conditions and outcomes of economic and managerial decisions can be so different in different parts of the world.

Our first year courses include introductory modules on economics, international business, and quantitative skills and methods. In the second year, the curriculum explores global policy

questions, such as economic development, environmental challenges, the globalization of economic agents and institutions, and the management of increasingly diversified organizations. In the third year, students delve deeper into selected, contemporary topics and techniques of utmost importance for their career and future studies, including modules on information economics, advanced econometrics, and public and non-profit management, as well as modules from other programs. Our students thus come to appreciate that political, social, cultural, and technological framework conditions have a decisive influence on economic outcomes on all continents.

The Global Economics and Management BA program has received excellent ranking results in the most recent university ranking conducted by the Center for Higher Education (CHE, see <https://ranking.zeit.de/che/de/fachbereich/1600776?ab=3>). The CHE ranking is based on a comparison of more than 300 universities and other higher education institutions. The main indicators are teaching quality, research, and study environment.

1.3 Program-specific Educational Aims

1.3.1 Qualification Aims

The GEM study program awards a Bachelor of Arts degree. This program is interdisciplinary and does not compare to a classical economics degree. The GEM study program seeks to explain how economies and economic agents operate and coordinate their interactions, both economically and managerially. The program is oriented more toward economic and management theories and policy discussions than towards mathematics. The scientific education provided by the program includes both quantitative and qualitative approaches, with a focus on quantitative techniques (e.g. statistics, R, and, econometrics).

1.3.2 Intended Learning Outcomes

By the end of the program, students will be able to:

- Distinguish among the interests and activities of private business organizations, governments, international organizations, civil society associations and non-profit organizations;
- evaluate economic, political, and societal problems using economics and management theories and scientific reasoning-specifically: statistical, mathematical, case-study based, econometrical, and qualitative reasoning;
- apply economic theories and analyses to issues of wide public and professional concern;
- apply business and management theories to basic dimensions of the conduct of business across sectors;
- articulate the relationships between business decisions, economic policies, and national and international public affairs;
- identify the appropriate approach to deal with business and institutional actors depending on their interests;
- identify the differences among national and regional perceptions of and approaches to economic reasoning;
- apply the social and intercultural competencies needed to take on responsibility in diverse, international teams with competing and overlapping interests;

- outline and discuss their arguments and those of others using a combination of economic, organizational and institutional analyses;
- assess and interpret relevant information for policy analyses in selected micro- and macroeconomic topics;
- describe the state of published knowledge in economics and management;
- explain real-world situations and problems of organizations and industries combining key contemporary theories of economics and management with methods and insights of other disciplines
- communicate economic and managerial analysis and solutions appropriately to their audience;
- investigate economic and managerial problems and undertake scientific or applied research projects;
- draw scientifically founded conclusions that consider social, professional, scientific, and ethical insights;
- engage ethically with academic, professional and wider communities and actively contribute to a sustainable future, reflecting and respecting different views.

1.4 Career Options

With its combination of economics and management, the program gives students solid labor-market qualifications for junior management positions with responsibilities in function-specific tasks and projects within areas of employment such as business development, sales and marketing, human resource management, organizational development, strategy and technology consulting, as well as for analyst positions in these fields or in specific industries. Our graduates have obtained internships and positions in a variety of institutions, including the World Bank, MIT, and the Harvard Kennedy School, and at companies such as Volkswagen, Deutsche Bank, Ernst & Young, Deutsche Börse, KPMG, Henkel, Daimler, LinkedIn, Microsoft, Uber, Vodafone, Zalando and Deloitte, as well as in various startups. A degree in GEM will also equip students with transferable skills that will allow them to move into other areas of employment with a variety of employers such as national and multi-national companies, governmental agencies, NGOs, international organizations, think tanks, special interest groups, and research institutions.

The GEM program has taken graduates onto a rich diversity of career paths. The academic rigor of the program prepares students for highly ranked graduate programs. GEM alumni have a strong track record with leading institutions around the world, such as the universities of Oxford, Cambridge, Edinburgh, St Gallen, Bonn, Munich (TUM) and Mannheim and graduate schools such as ESADE, Copenhagen Business School, BI Norwegian Business School, Hertie School of Governance, London Business School, and the London School of Economics.

Due to their experience of working and living with students from more than 100 countries on Jacobs University's international campus, GEM graduates are well prepared to take on responsibility in intercultural work environments. The Jacobs Career Services also Center offers students access to an exclusive internship program, individual career counseling, professional skills seminars, an online job portal, and employer networking during on-campus recruiting events, among other services.

1.5 Admission Requirements

Admission to Jacobs University is selective and based on a candidate's school and/or university achievements, recommendations, self-presentation, and performance on required standardized tests. Students admitted to Jacobs University demonstrate exceptional academic achievements, intellectual creativity, and the desire and motivation to make a difference in the world. The following documents need to be submitted with the application:

- Recommendation Letter
- Official or certified copies of high school/university transcripts
- Educational History Form
- Standardized test results (SAT/ACT/TestAS) - if applicable
- ZeeMee electronic resume (optional)
- Language proficiency test results (TOEFL, IELTS or equivalent)

German language proficiency is not required, instead all applicants need to submit proof of English proficiency.

For any student who has acquired the right to study at a university in the country where she/he has acquired the higher education entrance qualification Jacobs University accepts the common international university entrance tests as a replacement of the entrance examination. Applicants who have a subject-related entrance qualification (fachgebundene Hochschulreife) may be admitted only to the respective study programs.

For more detailed information about the admission visit: <https://www.jacobs-university.de/study/undergraduate/application-information>

1.6 More Information and Contact

For more information, please contact the study program chair:

Prof. Dr. Olivier Berthod
Professor of Organization & Management
Email: o.berthod@jacobs-university.de
Telephone: +49 421 200-3491

or visit our program website: <http://ba-gem.user.jacobs-university.de/>

2 The Curricular Structure

2.1 General

The curricular structure provides multiple elements for enhancing employability, interdisciplinarity, and internationality. The unique Jacobs Track, offered across all undergraduate study programs, provides comprehensive tailor-made modules designed to achieve and foster career competency. Additionally, a mandatory internship of at least two months after the second year of study and the possibility to study abroad for one semester give students the opportunity to gain insight into the professional world, apply their intercultural competences and reflect on their roles and ambitions for employment and in a globalized society.

All undergraduate programs at Jacobs University are based on a coherently modularized structure, which provides students with an extensive and flexible choice of study plans to meet the educational aims of their major as well as minor study interests and complete their studies within the regular period.

The framework policies and procedures regulating undergraduate study programs at Jacobs University can be found on the website (<https://www.jacobs-university.de/academic-policies>).

2.2 The Jacobs University 3C Model

Jacobs University offers study programs that comply with the regulations of the European Higher Education Area. All study programs are structured according to the European Credit Transfer System (ECTS), which facilitates credit transfer between academic institutions. The three-year under-graduate program involves six semesters of study with a total of 180 ECTS credit points (CP). The undergraduate curricular structure follows an innovative and student-centered modularization scheme - the 3C-Model - that groups the disciplinary content of the three study years according to overarching themes:

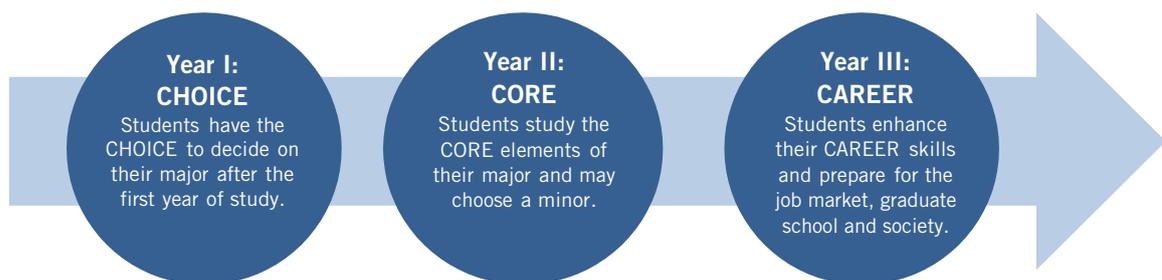


Figure 1: The Jacobs University 3C-Model

2.2.1 Year 1 – CHOICE

The first study year is characterized by a university-specific offering of disciplinary education that builds on and expands upon the students' entrance qualifications. Students select introductory modules for a total of 45 CP from the CHOICE area of a variety of study programs, of which 15-30 CP will be from their intended major. A unique feature of our curriculum

structure allows students to select their major freely upon entering Jacobs University. The Academic Advising Coordinator offers curricular counseling to all Bachelor students independently of their major, while Academic Advisors support students in their decision-making regarding their major study program as contact persons from the faculty.

To pursue Global Economics and Management as a major, the following CHOICE modules at least 30 CP need to be taken as mandatory modules:

- CHOICE Module: Microeconomics (7.5 CP)
- CHOICE Module: Macroeconomics (7.5 CP)
- CHOICE Module: Introduction to International Business (7.5 CP)
- CHOICE Module: Introduction to Finance and Accounting (7.5 CP)

These lecture-tutorial combinations provide the students with a general overview about basic concepts and theories in economics and business. In the associated tutorials, students have the opportunity to integrate the material taught in the lectures through discussions of related concepts, policy problems, or scientific studies, and through cases and exercises.

The remaining CHOICE modules (15 CP) can be selected in the first year of studies according to interest and/or with the aim to allow a change of major until the beginning of the second year, when the major choice becomes fixed.

2.2.1.1 Major Change Option

Students can still change to another major at their beginning of the second year of studies if they have taken the corresponding mandatory CHOICE modules in their first year of studies. All students must participate in a seminar on the major change options in the O-Week and consult their Academic Advisor in the first year of studies prior to changing their major.

The possible options and requirements for GEM students are listed below:

- All GEM students have the option to change to International Business Administration (IBA) after the first year of study.

Students who would like to retain a further option are strongly recommended to additionally register for the CHOICE modules of one of the following study programs in their first year:

- Integrated Social and Cognitive Psychology (ISCP)
CHOICE Module: Essentials of Cognitive Psychology (7.5 CP)
CHOICE Module: Essentials of Social Psychology (7.5 CP)
- International Relations: Politics and History (IRPH)
CHOICE Module: Introduction to International Relations Theory (7.5 CP)
CHOICE Module: Introduction to Modern European History (7.5 CP)
- Society, Media and Politics (SMP)
CHOICE Module: Introduction to the Social Sciences 1: Politics and Society (7.5 CP)
CHOICE Module: Introduction to the Social Sciences 2: Media and Society (7.5 CP)
- Earth and Environmental Studies (EES)
CHOICE Module: General Earth and Environmental Sciences (7.5 CP)
CHOICE Module: General Geology (7.5 CP)

- Industrial Engineering and Management (IEM)
CHOICE Module: General Industrial Engineering (7.5 CP)
CHOICE Module: General Logistics (7.5 CP)

2.2.2 Year 2 – CORE

In their second year, students take a total of 45 CP from a selection of in-depth, discipline-specific CORE modules. Building on the introductory CHOICE modules and applying the methods and skills acquired so far (see 2.3.1), these modules aim to expand the students' critical understanding of the key theories, principles, and methods in their major for the current state of knowledge and best practices.

To pursue Global Economics and Management as a major, at least 30 CP from the following mandatory elective CORE modules need to be taken:

- CORE: Development Economics (7.5 CP)
- CORE: Environmental and Resource Economics (7.5 CP)
- CORE: Comparing Economic Systems (7.5 CP)
- CORE: International Economics (7.5 CP)
- CORE: Marketing (7.5 CP)
- CORE: Organization and Human Resource Management (7.5 CP)

These modules offer a combination of seminar and tutorial. Each module builds on the contents of the first-year modules and delve into its respective topic through a mix of lecture inputs, paper discussions, and interactive group work. In the second year of studies, examinations are increasingly oriented towards essays and presentations.

The remaining 15 CP can be selected according to interest and with the aim of pursuing a minor in a second field of studies, or students complement their studies by taking all of the above listed mandatory elective CORE modules.

2.2.2.1 Minor Option

GEM students can take CORE modules (or more advanced Specialization modules) from a second discipline, which allows them to incorporate a minor study track into their undergraduate education, within the 180 CP required for a bachelor's degree. The educational aims of a minor are to broaden the students' knowledge and skills, support the critical reflection of statements in complex contexts, foster an interdisciplinary approach to problem-solving, and to develop an individual academic and professional profile in line with students' strengths and interests. This extra qualification will be highlighted in the transcript.

The Academic Advising Coordinator, Academic Advisor, and the Study Program Chair of the minor study program support students in the realization of their minor selection; the consultation with the Academic Advisor is mandatory when choosing a minor.

As a rule, this requires GEM students to:

- select two CHOICE modules (15 CP credits) from the desired minor program in the first year and
- substitute two of the mandatory elective GEM CORE modules (15 CP credits) in the second year with the default minor CORE modules of the minor study program.

The requirements for each specific minor are described in the handbook of the study program offering the minor (see Chapter 3.2) and are marked in the respective Study and Examination Plans. For an overview of accessible minors, please check the Major/Minor Combination Matrix which is published at the beginning of each academic year.

Note: Students pursuing GEM as a major cannot pursue International Business Administration (IBA) as a minor; students must declare whether they are following either GEM or IBA as a major at the beginning of the second year of studies.

2.2.3 Year 3 – CAREER

During their third year, students prepare for and make decisions about their career path after graduation. To explore available choices and to gain professional experience, students undertake a mandatory summer internship. The third year of studies allows GEM students to take Specialization modules within their discipline, but also focuses on the responsibility of students beyond their discipline (see Jacobs Track).

The fifth semester also opens a mobility window for a diverse range of study abroad options. Finally, the sixth semester is dedicated to fostering the students' research experience by involving them in an extended Bachelor thesis project.

2.2.3.1 Internship / Start-up and Career Skills Module

As a core element of Jacobs University's employability approach students are required to engage in a mandatory two-month internship of 15 CP that will usually be completed during the summer between the second and third years of study. This gives students the opportunity to gain first-hand practical experience in a professional environment, apply their knowledge and understanding in a professional context, reflect on the relevance of their major to employment and society, reflect on their own role in employment and society, and find a professional orientation. The internship can also establish valuable contacts for the students' Bachelor's thesis project, for the selection of a Master program graduate school or further employment after graduation. This module is complemented by career advising and several career skills workshops throughout all six semesters that prepare students for the transition from student life to professional life. As an alternative to the full-time internship, students interested in setting up their own company can apply for a start-up option to focus on developing of their business plans.

For further information, please contact the Career Services Center (<https://www.jacobs-university.de/career-services>)

2.2.3.2 Specialization Modules

In the third year of their studies, students take 15 CP from major-specific or major-related, advanced Specialization modules to consolidate their knowledge and to be exposed to state-of-the-art research in the areas of their interest. This curricular component is offered as a portfolio of modules, from which students can make free selections during their 5th and 6th semester. The default specialization module size is 5 CP, with smaller 2.5 CP modules being possible as justified exceptions.

To pursue Global Economics and Management as a major, at least 15 CP from the following mandatory elective Specialization Modules need to be taken:

- Specialization: Advanced Econometrics (5CP)
- Specialization: Managing Public and Nonprofit Organizations (5CP)
- Specialization: Information Economics (5CP)
- Specialization: Lean Management (5CP)
- Specialization: Managerial Accounting (5CP)
- Specialization: Contemporary Topics in Marketing (5CP)

2.2.3.3 Study Abroad

Students have the opportunity to study abroad for a semester to extend their knowledge and abilities, broaden their horizons and reflect on their values and behavior in a different context as well as on their role in a global society. For a semester abroad (usually the 5th semester), modules related to the major with a workload equivalent to 22.5 CP must be completed. Modules recognized as study abroad CP need to be pre-approved according to Jacobs University study abroad procedures. Several exchange programs allow students to directly enroll at prestigious partner institutions worldwide. Jacobs University's participation in Erasmus+, the European Union's exchange program, provides an exchange semester at a number of European universities that include Erasmus study abroad funding.

For further information, please contact the International Office (<https://www.jacobs-university.de/study/international-office>).

GEM students that wish to pursue a study abroad in their fifth semester are required to select their modules at the study abroad partners such that they can be used to substitute between 10-15 CP of major-specific Specialization modules and between 5-15 CP of modules equivalent to the non-disciplinary Big Questions modules or the Community Impact Project (see Jacobs Track). In their sixth semester, according to the study plan, returning study-abroad students complete the Bachelor Thesis/Seminar module (see next section), they take any missing Specialization modules to reach the required 15 CP in this area, and they take any missing Big Questions modules to reach 15 CP in this area. Study abroad students are allowed to substitute the 5 CP Community Impact Project (see Jacobs Track below) with 5 CP of Big Questions modules.

2.2.3.4 Bachelor Thesis/Seminar Module

This module is a mandatory graduation requirement for all undergraduate students. It consists of two module components in the major study program guided by a Jacobs faculty member: the Bachelor Thesis (12 CP) and a Seminar (3 CP). The title of the thesis will appear on the students' transcripts.

Within this module, students apply the knowledge skills, and methods they have acquired in their major discipline to become acquainted with actual research topics, ranging from the identification of suitable (short-term) research projects, preparatory literature searches, the realization of discipline-specific research, and the documentation, discussion, and interpretation of the results.

With their Bachelor Thesis students demonstrate mastery of the contents and methods of their major-specific research field. Furthermore, students show the ability to analyze and solve a well-

defined problem with scientific approaches, a critical reflection of the status quo in scientific literature, and the original development of their own ideas. With the permission of a Jacobs Faculty Supervisor, the Bachelor Thesis can also have an interdisciplinary nature. In the seminar, students present and discuss their theses in a course environment and reflect on their theoretical or experimental approach and conduct. They learn to present their chosen research topics concisely and comprehensively in front of an audience and to explain their methods, solutions, and results to both specialists and non-specialists.

2.3 The Jacobs Track

The Jacobs Track, an integral part of all undergraduate study programs, is another important feature of Jacobs University's educational model. The Jacobs Track runs parallel to the disciplinary CHOICE, CORE, and CAREER modules across all study years and is an integral part of all undergraduate study programs. It reflects a university-wide commitment to an in-depth training in scientific methods, fosters an interdisciplinary approach, raises awareness of global challenges and societal responsibility, enhances employability, and equips students with augmented skills desirable in the general field of study. Additionally, it integrates (German) language and culture modules.

2.3.1 Methods and Skills Modules

Methods and skills such as mathematics, statistics, programming, data handling, presentation skills, academic writing, and scientific and experimental skills are offered to all students as part of the Methods and Skills area in their curriculum. The modules that are specifically assigned to each study programs equip students with transferable academic skills. They convey and practice specific methods that are indispensable for each students' chosen study program. Students are required to take 20 CP in the Methods and Skills area. The size of all Methods and Skills modules is 5 CP.

To pursue GEM as a major, the following Methods and Skills modules (20 CP) need to be taken as mandatory modules:

- Methods Module: Applied Calculus (5 CP)
- Methods Module: Applied Statistics with R (5 CP)
- Methods Module: Qualitative Research Methods (5 CP)
- Methods Module: Econometrics (5 CP)

2.3.2 Big Questions Modules

The modules in the Big Questions area (10 CP) intend to broaden students' horizons with applied problem solving between and beyond their chosen disciplines. The offerings in this area comprise problem-solving oriented modules that tackle global challenges from the perspectives of different disciplinary backgrounds that allow, in particular, a reflection of acquired disciplinary knowledge in economic, societal, technological, and/or ecological contexts. Working together with students from different disciplines and cultural backgrounds, these modules cross the boundaries of traditional academic disciplines.

Students are required to take 10 CP from modules in the Area. This curricular component is offered as a portfolio of modules, from which students can make free selections during their 5th and 6th semester with the aim of being exposed to the full spectrum of economic, societal,

technological, and/or ecological contexts. The size of Big Questions Modules is either 2.5 or 5 CP.

2.3.3 Community Impact Project

In their fifth semester students are required to take a 5 CP Community Impact Project (CIP) module. Students engage in on-campus or off-campus activities that challenge their social responsibility, i.e., they typically work on major-related projects that make a difference in the community life on campus, in the campus neighborhood, Bremen, or on a cross-regional level. The project is supervised by a faculty coordinator and mentors.

Study abroad students are allowed to substitute the 5-CP Community Impact Project with 5 CP of Big Questions modules.

2.3.4 Language Modules

Communication skills and foreign language abilities foster students' intercultural awareness and enhance their employability in an increasingly globalized and interconnected world. Jacobs University supports its students in acquiring and improving these skills by offering a variety of language modules at all proficiency levels. Emphasis is put on fostering the German language skills of international students as they are an important prerequisite for non-native students to learn about, explore, and eventually integrate into their host country and its professional environment. Students who meet the required German proficiency level (e.g., native speakers) are required to select modules in any other modern foreign language offered (Chinese, French or Spanish). Hence, acquiring 10 CP in language modules, with German mandatory for non-native speakers, is a requirement for all students. This curricular component is offered as a four-semester sequence of foreign language modules. The size of the Language Modules is 2.5 CP.

3 Global Economics and Management as a Minor

A minor in GEM will meet the expectations of prospective students with a strong interest in the impact of globalization on economic dynamics, organizations and society. Economics studies how individuals, households, firms and governments make decisions regarding the production, distribution, acquisition and allocation of scarce resources. The Management discipline examines the design and administration of firms, nonprofits, and public organizations, as well as the consequences of managerial actions and decisions for individuals, society and economies.

3.1 Qualification Aims

The purpose of a minor in GEM is to enable graduates to take an active role in shaping future economic and social processes. The GEM program therefore combines the disciplines of Economics and Management Studies. Students come to understand how economies and economic agents operate and coordinate their interactions, both economically and managerially. Students taking a minor in GEM discover the important mechanisms connecting globalized

economic dynamics, business interests, and managerial action to prepare them for future responsibilities in an increasingly interconnected world.

3.1.1 Intended Learning Outcomes

With a minor in GEM, students will be able to:

- discuss economic, political and societal problems using fundamentals of economics and management theories and scientific reasoning;
- apply economic theories and analyses to issues of wide public and professional concern;
- apply business and management theories to basic dimensions of business conducts;
- articulate the relationships between business decisions, economic policies, and national and international public affairs;
- identify the differences among national and regional perceptions of and approaches to economic reasoning;
- assess and interpret relevant information for policy analyses in selected micro- and macroeconomics topics.

3.2 Module Requirements

A minor in GEM requires 30 CP. The default option to obtain a minor in GEM is marked in the Study and Examination Plan. It includes the first-year unit “General Economics” and the second-year unit “Economic Policy Challenges” with the following CHOICE and CORE modules:

- CHOICE Module: Microeconomics (7.5 CP)
- CHOICE Module: Macroeconomics (7.5 CP)
- CORE Module: Development Economics (7.5 CP)
- CORE Module: Environmental and Resource Economics (7.5 CP)

If scheduling and prerequisites allow, substitutions of the default CORE modules with the following CORE modules is possible:

- CORE Module: Comparing Economic Systems (7.5 CP)
- CORE Module: International Economics (7.5 CP)

Upon the consultation with the Academic Advisor and the GEM Study Program Coordinator, individual CORE modules from the default minor can be replaced also by other advanced modules (CORE or Specialization) from the GEM major.

3.3 Degree

After successful completion the minor in Global Economics and Management will be listed on the final transcript under PROGRAM OF STUDY and BA/BSc – [name of the major] as “(Minor: Global Economics and Management)”.

4 Global Economics and Management Undergraduate Program Regulations

4.1 Scope of these Regulations

The regulations in this handbook are valid for all students who entered the Global Economics and Management undergraduate program at Jacobs University in Fall 2021. In case of a conflict between the regulations in this handbook and the general Policies for Bachelor Studies, the latter applies (see <http://www.jacobs-university.de/academic-policies>).

In exceptional cases, certain necessary deviations from the regulations of this study handbook might occur during the course of study (e.g., change of the semester sequence, assessment type, or the teaching mode of courses).

In general, Jacobs University Bremen reserves therefore the right to change or modify the regulations of the program handbook also after its publication at any time and in its sole discretion.

4.2 Degree

Upon successful completion of the study program, students are awarded a Bachelor of Arts (BA) degree in Global Economics and Management.

4.3 Graduation Requirements

In order to graduate, students need to obtain 180 credit points. In addition, the following graduation requirements apply:

- Students need to complete all mandatory components of the program as indicated in Chapter 6 of this handbook.

5 Schematic Study Plan for GEM

Figure 2 shows schematically the sequence and types of modules required for the study program. A more detailed description, including the assessment types, is given in the Study and Examination Plans in the following section.

BA Degree in Global Economics and Management (180 ECTS credits)					
Year 3	Bachelor Thesis/Seminar (m, 15 CP)			Big Questions (me, 5 CP)	Big Questions (me, 2.5 CP)
	Study Abroad Option (22.5 CP)			Community Impact Project (m, 5 CP)	Big Questions (me, 2.5 CP)
	Specialization (m, 3 x 5 CP)				
Internship/Startup (Summer) (m, 15 CP)					
Year 2	CORE Environment and Resource Economics (me, 7.5 CP)	CORE Comparing Economic Systems (me, 7.5 CP)	CORE Marketing (me, 7.5 CP)	Methods/Skills Econometrics (m, 5 CP)	Language (me, 2.5 CP)
	CORE Development Economics (me, 7.5 CP)	CORE International Economics (me, 7.5 CP)	CORE Organisation and HR Management (me, 7.5 CP)	Methods/Skills Research Methods (m, 5 CP)	Language (me, 2.5 CP)
	CHOICE Macroeconomics (m, 7.5 CP)	CHOICE Introduction to Finance & Accounting (m, 7.5 CP)	CHOICE Own Selection (me, 7.5 CP)	Methods/Skills Appl. Statistics with R (m, 5 CP)	Language (me, 2.5 CP)
Year 1	CHOICE Microeconomics (m, 7.5 CP)	CHOICE Intro to Internat. Business (m, 7.5 CP)	CHOICE Own Selection (me, 7.5 CP)	Methods/Skills Applied Calculus (m, 5 CP)	Language (me, 2.5 CP)
Area	CHOICE/CORE 90 CP			JACOBS TRACK 45 CP	

* mandatory for minor students (default minor)
 m = mandatory
 me = mandatory elective

Figure 2: Schematic Study Plan for GEM

1 Global Economics and Management Modules

1.1 Microeconomics

Module Name	Module Code	Level (type)	CP
Microeconomics	CH-310	Year 1 (CHOICE)	7.5
Module Components			
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>
CH-310-A	Microeconomics Theory and Policy	Lecture	5
CH-310-B	Microeconomics - Tutorial	Tutorial	2.5
Module Coordinator	Program Affiliation	Mandatory Status	
Prof. Dr. Colin Vance	<ul style="list-style-type: none"> Global Economics and Management (GEM) 	Mandatory for GEM and IBA	
Entry Requirements		Frequency	Forms of Learning and Teaching
<i>Pre-requisites</i>		Annually (Fall)	<ul style="list-style-type: none"> Lecture (35 hours) Seminar (17.5 hours) Private Study (135 hours)
<input checked="" type="checkbox"/> None	<i>Co-requisites</i>	Duration	Workload
	<i>Knowledge, Abilities, or Skills</i>	1 semester	187.5 hours
	<ul style="list-style-type: none"> Logical reasoning High school mathematics 		
	<input checked="" type="checkbox"/> None		
Recommendations for Preparation			
To prepare for this module, students are recommended to read the article “Research on teaching economics to undergraduates,” published in the Journal of Economic Literature in 2015. The article will allow students to get a first-hand look at the challenges of teaching economics from the viewpoint of those who teach it.			
Content and Educational Aims			
The study of economics is concerned with the allocation of scarce resources and the associated implications for efficiency, equity, and human welfare. This module introduces the field of microeconomics, focusing on the role of markets in facilitating exchanges between different sectors of the economy such as workers, consumers, firms, and government institutions. Topics addressed include consumer theory, the cost structures and behavior of firms in various industries, competition, monopoly, and government regulation. The module applies theoretical concepts to contemporary policy questions, such as when government intervention is justified to correct market imperfections.			
This module aims at transmitting fundamental knowledge of economics at the level of economic agents. A command of microeconomics constitutes the basis for undergraduate studies in the fields of economics and management and helps make sense of economic behaviors in many situations, including professional settings. With its focus on questions of welfare and the policy implications of microeconomic theories, this module also enables students to understand public affairs from an economic perspective at the micro level and promotes their capacity to differentiate among and explain the concepts taught in class. Textbook-based lectures ensure the			

transmission of the necessary knowledge. The accompanying, interactive tutorials further promote the students' capacity to describe and give examples of the concepts taught in class.

Intended Learning Outcomes

By the end of this module, students should be able to

- explain how economic concepts such as opportunity costs and the gains from trade can be applied to a range of themes of relevance to human welfare;
- use graphical depictions to derive insights into how markets function;
- distinguish between equity and efficiency when evaluating the outcomes of economic policies;
- explain and differentiate among fundamental microeconomic models, such as that demonstrating the gains from trade, using graphs as visual aids;
- explain the policy implications of microeconomic theories.

Indicative Literature

Hayek, F. A. (1945). The use of knowledge in society. *American Economic Review*, 35(4): 519-530.

King, M. L., Jr. (1963). Letter from a Birmingham jail.

Thaler, R. H. (2016). Behavioral economics: Past, present, and future. *American Economic Review*, 106(7): 1577-1600.

Usability and Relationship to other Modules

- Mandatory for a major in GEM or IBA
- Mandatory for a minor in GEM
- Prerequisite for all 2nd year GEM Core modules
- Pre-requisite for 2nd year GEM/IBA modules: Marketing, Organization and Human Resource Management
- Elective for all other undergraduate study programs.
- This module transmits fundamental knowledge of microeconomics that is necessary to the second-year modules "Development Economics", "Environmental and Resource Economics", "Comparing Economic Systems" and "International Economics". This module further benefits from the contents taught in its accompanying "Macroeconomics" as the combination of the two offers a comprehensive view of economic questions from the interaction of economic agents to the aggregated level.

Examination Type: Module Examination

Assessment Type: Written examination
Scope: All intended learning outcomes of the module

Duration: 120 minutes
Weight: 100%

1.2 Macroeconomics

Module Name		Module Code	Level (type)	CP
Macroeconomics		CH-311	Year 1 (CHOICE)	7.5
Module Components				
Number	Name	Type		CP
CH-311-A	Macroeconomics Theory and Policy	Lecture		5
CH-311-B	Macroeconomics -Tutorial	Tutorial		2.5
Module Coordinator	Program Affiliation		Mandatory Status	
Prof. Dr. Colin Vance	<ul style="list-style-type: none"> Global Economics and Management (GEM) 		Mandatory for GEM and IBA	
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	Annually (Spring)	<ul style="list-style-type: none"> Lecture (35 hours) Tutorial (17.5 hours) Private Study (135 hours) 	
<input checked="" type="checkbox"/> Microeconomics	<input checked="" type="checkbox"/> None			
		1 semester	187.5 hours	
Recommendations for Preparation				
None.				
Content and Educational Aims				
<p>The study of economics is concerned with the allocation of scarce resources and the associated implications for efficiency, equity, and human welfare. This module introduces the field of macroeconomics, focusing on different aspects of demand and supply-side policies. The module applies theoretical concepts to contemporary policy questions, such as when and why governments may want to intervene in the economy with the help of fiscal and monetary policies and what these government interventions mean for various markets and economic actors. The lectures cover the material students need to know to take and pass the module examination. In the tutorials, the students further integrate the material taught in the lectures via discussions of related concepts, policy problems, or scientific studies, and exercises.</p> <p>This module aims at transmitting fundamental knowledge of economics at the aggregated level of whole economies. A command of macroeconomics constitutes the basis for undergraduate studies in the fields of economics and management and helps making sense of the economic conditions in which we behave, not least in professional settings. With its interest in questions of market regulation and policy implications of macroeconomics theories, this module also enables students to understand public affairs from the perspective of whole economies. Textbook-based lectures ensure the transmission of the necessary knowledge. The accompanying, interactive tutorials further promote the students' capacity to differentiating and explaining the concepts taught in class.</p>				

Intended Learning Outcomes

By the end of this module, students will be able to

- express and discuss ways to analyze the performance of national economies through key indicators such as GDP growth, unemployment, inflation, government deficit and trade imbalances
- explain and differentiate the goals and effectiveness of government interventions to combat economic crises in the form of monetary and fiscal policies;
- describe how supply side measures such as improvements in infrastructure, education, and research can improve long-term growth and the international competitiveness of companies;
- demonstrate how economic development and economic policy decisions have a strong potential of producing winners and losers among economic actor;
- explain the policy implications of macroeconomic theories.

Indicative Literature

Snowdown, B., Vane, H. R. (2005). *Modern macroeconomics. Its origins, development and current state*. Cheltenham: Edward Elgar.

Goodwin, N., Harris, J., Rajkarnikar, P. J., Roach, B. Torras, M. (2019). *Macroeconomics in context*. London: Routledge.

Usability and Relationship to other Modules

- Mandatory for a major in GEM and IBA
- Mandatory for a minor in GEM
- Prerequisite for all 2nd-year GEM CORE modules
- Pre-requisite for 2nd-year GEM/IBA modules: Marketing, and Organization and Human Resource Management
- Elective for all other undergraduate study programs.
- This module transmits fundamental knowledge of macroeconomics that is necessary to the second-year modules “Development Economics”, “Environmental and Resource Economics”, “Comparing Economic Systems” and “International Economics”. This module further benefits from the contents taught in its accompanying module “Microeconomics” as the combination of the two offers a comprehensive view of economic questions from the interaction of economic agents to the aggregated level.

Examination Type: Module Examination

Assessment Type: Written examination

Duration: 120 minutes

Weight: 100%

Scope: All intended learning outcomes of the module

1.3 Introduction to International Business

Module Name Introduction to International Business		Module Code CH-300	Level (type) Year 1 (CHOICE)	CP 7.5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>	
CH-300-A	Introduction to International Business	Lecture	5	
CH-300-B	Introduction to International Business - Seminar	Seminar	2.5	
Module Coordinator Prof. Dr. Christoph Lattemann	Program Affiliation <ul style="list-style-type: none"> International Business Administration (IBA) 	Mandatory Status Mandatory for IBA, GEM and IEM		
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	Annually (Fall)	<ul style="list-style-type: none"> Lecture (35 hours) Seminar (17.5 hours) Private studies on cases (50 hours) Private studies on content (85 hours) 	
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None			
<i>Knowledge, Abilities, or Skills</i>		Duration	Workload	
<ul style="list-style-type: none"> None 		1 semester	187.5 hours	
Recommendations for Preparation				
None.				
Content and Educational Aims				
<p>This module provides the basics needed for making informed and effective business decisions in today's global economy. It focuses on the domains of business such as international strategy and organizational structure, selecting and managing entry modes, developing and marketing products internationally and managing international operations. Issues of globalization, cross-cultural businesses, politics and law in business, economic systems and development, international trade, and international financial markets will also be covered. Upon completing the module, students will know how to use a number of international business analytical tools, and have experience with case study analysis: including, PEST, CAGE, International Market Selection and Modes of Entry. Global corporate social responsibility and sustainability issues will also be discussed.</p>				
Intended Learning Outcomes				
<p>By the end of this module, students will be able to</p> <ul style="list-style-type: none"> understand and describe the process of globalization and how it affects markets and production e.g. identify the two forces causing globalization to increase, identify the types of companies that participate in international business, describe the global business environment and identify its four main elements; describe culture and explain the significance of both national culture and subcultures, identify the components of culture and the impact on business, describe the two main frameworks used to classify cultures and explain their practical use; describe each main type of political system. Identify the origins of political risk and how managers can reduce its effects. List the main types of legal systems and explain how they differ. Describe the major legal and ethical issues facing international companies; 				

- describe what is meant by a centrally planned economy and explain why its use is declining. Identify the main characteristics of a mixed economy and explain the emphasis on privatization. Describe the different ways to measure a nation's level of development;
- discuss international trade and trade patterns. Explain absolute advantage and comparative advantage and identify their differences. Explain the factor proportions and international product life cycle theories as well as trade and national competitive advantage theories;
- describe the political, economic, and cultural motives behind governmental intervention in trade. List and explain the methods governments use to promote and restrict international trade;
- define regional economic integration and identify its five levels. Discuss the benefits and drawbacks associated with regional economic integration;
- discuss international capital market, international bond, international equity, and Eurocurrency markets. Discuss the four primary functions of the foreign exchange market. Explain how currencies are quoted and the different rates given;
- explain how exchange rates influence the activities of domestic and international companies. Identify the factors that help determine exchange rates and their impact on business;
- identify international strategies and the corporate-level strategies that companies use;
- discuss the important issues that influence the choice of organizational structure;
- explain why and how companies use exporting, importing, and countertrade. Explain the various means of financing export and import activities. Describe the different contractual entry modes that are available to companies. Discuss the important strategic factors in selecting an entry mode;
- explain the impact globalization is having on international marketing activities. Understand the various dimensions for developing international product, promotional, pricing and distribution strategies (4P's marketing mix);
- use concepts, tools and frameworks and apply them in the international business context. Develop and improve your analytical and critical thinking skills by applying them to contemporary international business issues. Improve communication skills like reading, writing, speaking, and listening. Prepare and deliver oral presentations as well as written works either prepared individually or as a team. Improve your research skills by analyzing real business situations, identifying problems, evaluating and discussing options and prepare recommendations. These recommendations need to be fact-based, undertaken qualitative and quantitative analyses.

Indicative Literature

Peng, M., Meyer K. (2019). International Business, 3 ed, Boston: Cengage Learning EMEA.

Usability and Relationship to other Modules

- Mandatory for a major in IBA, GEM and IEM
- Mandatory for a minor in IBA
- Pre-requisite for all 2nd-year IBA CORE modules
- Elective for all other undergraduate study programs.

Examination Type: Module Examination

Assessment Type: Written examination and Case Studies (preparation of case studies is prerequisite to attend the written examination).

Duration of written examination: 120 minutes

Weight: 100%

Scope: all intended learning outcomes

1.4 Introduction to Finance and Accounting

Module Name Introduction to Finance and Accounting		Module Code CH-301	Level (type) Year 1 (CHOICE)	CP 7.5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>	
CH-301-A	Introduction to Finance	Seminar	2.5	
CH-301-B	Introduction to Accounting	Seminar	2.5	
CH-301-C	Finance and Accounting Tutorial	Tutorial	2.5	
Module Coordinator Prof. Dr. Tilo Halaszovich	Program Affiliation <ul style="list-style-type: none"> International Business Administration (IBA) 		Mandatory Status Mandatory for IBA, GEM and IEM	
Entry Requirements		Frequency Annually (Spring)	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i> <ul style="list-style-type: none"> None. 	<ul style="list-style-type: none"> Seminars (35 hours) Tutorial (17.5 hours) Private Study (135 hours) 	
<input checked="" type="checkbox"/> Introduction to International Business	<input checked="" type="checkbox"/> none			
		Duration 1 semester	Workload 187.5 hours	
Recommendations for Preparation None				
Content and Educational Aims				
<p>This module introduces students to basic financial and accounting techniques necessary to supplement business decision-making. The module is split into three sub-parts. The first part focuses on finance and investment and will provide students with the basics of corporate finance and investments. It will offer an overview of the different sources of finance from private and public sources and it will introduce the analytical tools and the necessary techniques for the financial management of a firm. It further provides the foundation for the basic domains of entrepreneurial finance, financing small- and medium enterprises and accessing capital markets. This also includes structuring financial activities in projects, funds, mergers and acquisition.</p> <p>The second part focuses on measuring the financial position and performance of a firm, on reporting cash flows and on analyzing financial statements. The perspective, thereby, lies on purposes of accounting, principal accounting procedures, sources and recording of data, the verification of accounting records, principles of financial statements, preparation, analysis and interpretation of financial statements, international accounting standards (IFRS), and principles and policies and their differences.</p> <p>The third part of the module is designed as tutorial. In the tutorial students will repeat, apply and practice the techniques from both seminars. Students work on exercises individually and in small groups.</p>				

Intended Learning Outcomes

By the end of this module, students should be able to:

- understand the theoretical foundation of corporate finance
- understand how public and private financial markets and organizations work
- differentiate the variety of financing sources for companies
- develop a sound understanding how to structure investments
- identify and explain the financial structure of firms
- identify and describe the major functions of financial reporting
- describe and explain the relationship between financial statement elements
- describe the roles and desirable attributes of financial reporting standards
- describe and explain the elements of the balance sheet
- describe, explain and classify cash flow items
- describe and explain tools and techniques used in financial analysis and calculate ratios
- describe and explain characteristics of financial reporting quality

Indicative Literature

Phillips, F., Libby, R., Libby P. (2015). Fundamentals of Financial Accounting, 5th Edition. New York: McGraw-Hill Education.

Fraser, L.M., Ormiston, A. (2015). Understanding Financial Statements, 11th Edition, London: Pearson.

Hisrich, R., Peters, M., Shepherd D (2017). Entrepreneurship & Innovation, 10th Edition, New York: McGraw-Hill.

Usability and Relationship to other Modules

- Mandatory for a major in IBA, GEM and IEM
- Mandatory for a minor in IBA
- Pre-requisite for all 2nd year IBA CORE modules
- Elective for all other undergraduate study programs
- Builds on the module "Introduction to International Business"
- The module prepares students for the CORE modules in the second and third study year

Examination Type: Module Examination

Assessment Type: Written examination

Duration: 120 minutes

Weight: 100%

Scope: All intended learning outcomes of the module.

1.5 Development Economics

Module Name			Module Code	Level (type)	CP
Development Economics			CO-620	Year 2 (CORE)	7.5
Module Components					
Number	Name			Type	CP
CO-620-A	Development Economics			Seminar	5
CO-620-B	Development Economics - Tutorial			Tutorial	2.5
Module Coordinator	Program Affiliation			Mandatory Status	
Prof. Dr. Achim Schlüter	<ul style="list-style-type: none"> Global Economics and Management (GEM) 			Mandatory elective for GEM	
Entry Requirements			Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually (Fall)	<ul style="list-style-type: none"> Seminar (35 hours) Tutorial (17.5 hours) Private study (135 hours) 	
<input checked="" type="checkbox"/> Microeconomics and Macroeconomics	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Logical and causality-based reasoning Basic knowledge in micro- and macroeconomics 	Duration 1 semester	Workload 187.5 hours	
Recommendations for Preparation					
The foundation of the module is the textbook of Todaro/Smith "Development Economics". It is helpful to use it for prior preparation.					
Content and Educational Aims					
<p>This module combines knowledge from the first-year modules with insights from the social sciences and economic history to provide students with an overview of some of the major ideas in development thinking, especially problems related to slow growth, high poverty rates, high income inequality, the environment, and chronic external crises. The main focus of this module is on identifying, formulating and discussing economic policy strategies for accelerating growth, attaining sustainable development, reducing poverty and income inequality, and decreasing external imbalances. Textbook-based lectures and paper discussions ensure the transmission of the necessary knowledge during the seminar. In the accompanying interactive tutorials, students have the opportunity to review the material taught in the seminar and further train their capacity to explain these concepts and theories.</p> <p>This module aims at transmitting fundamental knowledge of development and related issues from an economics perspective. Understanding the underlying mechanisms and economic dynamics of development constitutes an important basis for undergraduate studies in the fields of economics and helps students make sense of economic behaviors in many situations, including professional settings. With its interest in questions of growth, poverty,</p>					

and inequality, this module helps students to appreciate cross-dependencies in a globalized world, where states, companies, civil society, and individuals are interacting in a complex manner.

Intended Learning Outcomes

By the end of this module, students will be able to

- identify and explain critical policy challenges in various country groups and the world and explain what they mean for various economic actors and governments;
- analyze the economic interests of various stakeholders and how they collide;
- identify and explain best practices from other countries and their suitability for the country under consideration;
- identify and apply suitable theoretical and empirical methods of analysis for economic development processes within different societies;
- understand the crucial importance of research and development for a variety of economic policy challenges;
- evaluate the costs and benefits of suggested policy measures;
- analyze the distributional effects of suggested policy measures and their implications for the feasibility of suggested measures.

Indicative Literature

Todaro, M.P., Smith, S.C. (2015). *Economic development, 12 ed.* Harlow, UK: Pearson.

Usability and Relationship to other Modules

- Mandatory elective for a major in GEM
- One of two default 2nd-year Core modules for a minor in GEM (a minor in GEM is feasible only with the modules “Development Economics and Environment and Resources” (default), or with “International Economics and Comparing Economic Systems”
- Elective for all other programs
- This module builds on the knowledge acquired in the first-year modules “Microeconomics” and “Macroeconomics” and expands students’ understandings of these two disciplines by focusing on the development process of low income economies as well as their relation to other economies in a globalized world. This module benefits from the contents taught in its accompanying module “Environmental and Resource Economics” as the combination of the two modules places of economic growth and inequality issues into the perspective of environmental sustainability, and vice versa. This module provides knowledge required for the third-year module “Managing Public and Nonprofit Organizations”.

Examination Type: Module Examination

Assessment Type: Term paper

Length: 2500 - 4000 words

Weight: 100%

Scope: All intended learning outcomes of the module

1.6 Environmental and Resource Economics

Module Name		Module Code	Level (type)	CP
Environmental and Resource Economics		CO-621	Year 2 (CORE)	7.5
Module Components				
Number	Name	Type		CP
CO-621-A	Environmental and Resource Economics	Seminar		5
CO-621-B	Environmental and Resource Economics - Tutorial	Tutorial		2.5
Module Coordinator	Program Affiliation		Mandatory Status	
Prof. Dr. Colin Vance	<ul style="list-style-type: none"> Global Economics and Management (GEM) 		Mandatory elective for GEM	
Entry Requirements			Frequency	Forms of Learning and Teaching
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually (Spring)	<ul style="list-style-type: none"> Seminar (35 hours) Tutorial (17,5 hours) Private Study (135 hours)
<input checked="" type="checkbox"/> Microeconomics and Macroeconomics	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Logical and causality-based reasoning Basic knowledge in micro- and macroeconomics 	Duration	Workload
			1 semester	187.5 hours
Recommendations for Preparation				
To prepare for this module, students are recommended to read the article "How do economists really think about the environment?" published in Nature in 1998.				
Content and Educational Aims				
<p>This module covers the application of theoretical and empirical economics to the analysis of environmental and resource management issues. Specific topics include global climate change, energy use, transportation, and the extraction of exhaustible and non-exhaustible resources. Cross-cutting these topics is an emphasis on how economic analysis can contribute to contemporary policy debates, such as about the strengths and weaknesses of regulatory- and market-based policy instruments for reducing CO2 emissions. We also examine the implications for industry of national and international efforts to protect the environment. In the tutorials, students have the opportunity to review the material taught in the seminar and further train their understanding of these concepts and theories in group discussions of concepts and case study problems.</p> <p>This module aims at transmitting fundamental knowledge of environmental dynamics from an economics perspective. Understanding the underlying mechanisms and economic dimensions of environmental issues constitutes an important basis for undergraduate studies in the fields of economics and the management of sustainability and helps students make sense of economic behaviors in many situations, including professional settings. With its interest in questions of resource exhaustibility and in the impact of economic behavior on the environment, this module helps students to understand public affairs from an environmental perspective and</p>				

promotes their capacity to anticipate the consequences of economic and managerial decisions, including their own.

Intended Learning Outcomes

By the end of this module, students will be able to

- name and discuss key theoretical frameworks for understanding environmental economics;
- differentiate and discriminate among empirical evidence on economy-environment linkages;
- apply theoretical and empirical knowledge to judge the merits of environmental policies, in particular, the pros and cons of market-based versus regulatory approaches;
- calculate the net present value of alternative measures to protect the environment.

Indicative Literature

Tietenberg, T., Lewis, L., (2019). Environmental economics: The essentials. Routledge.

Fullerton, D., Stavins. R. N. (1998). How do economists really think about the environment? *Nature*, 395: 433-434.

Usability and Relationship to other Modules

- Mandatory elective for a major in GEM
- One of two default 2nd-year Core modules for a minor in GEM (a minor in GEM is feasible only with the modules “Development Economics and Environment and Resources” (default), or with “International Economics and Comparing Economic Systems”
- Elective for all other programs
- This module builds on the knowledge acquired in the first-year modules “Microeconomics” and “Macroeconomics” and expands students’ understandings of these two disciplines by focusing on the linkages between economy and the environment both an economic agent and a policy perspective. This module benefits from the contents taught in its accompanying module “Development Economics” as the combination of the two modules further places of environmental sustainability issues into the perspective of economic growth and inequality in international trade, and vice versa. This module provides knowledge that is required for the third-year modules “Managing Public and Nonprofit Organizations”, “Advanced Econometrics” and “Information Economics”.

Examination Type: Module Examination

Assessment Type: Written examination

Duration: 120 minutes

Weight: 100%

Scope: All intended learning outcomes of the module

1.7 Comparing Economic Systems

Module Name			Module Code	Level (type)	CP
Comparing Economic Systems			CO-622	Year 2 (CORE)	7.5
Module Components					
Number	Name			Type	CP
CO-622-A	Comparing Economic Systems			Seminar	5
CO-622-B	Comparing Economic Systems - Tutorial			Tutorial	2.5
Module Coordinator	Program Affiliation			Mandatory Status	
Prof. Dr. Tobias ten Brink	<ul style="list-style-type: none"> Global Economics and Management (GEM) 			Mandatory elective for GEM	
Entry Requirements			Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually (Fall)	<ul style="list-style-type: none"> Seminar (35 hours) Tutorial (17,5 hours) Private Study (135 hours) 	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Writing skills Basic knowledge in micro- and macroeconomics 	Duration	Workload	
Microeconomics and Macroeconomics			1 semester	187.5 hours	
Recommendations for Preparation					
Students prepare best for this module by reading Clift, Ben (2014): Comparative Political Economy. States, Markets and Global Capitalism, Palgrave.					
Content and Educational Aims					
<p>In the last two decades Germany has been called the “Sick Man of Europe” and a “European Powerhouse”. These are only two examples of the lively debate about the different performances levels of national economies. Since the demise of centrally planned economies the focus of such discussions has largely been on “Varieties of Capitalism”, a comparative analysis of liberal and coordinated market economies in the OECD world. This module introduces key theories of comparative political economy and the many significant differences apparent in the evolution of capitalist systems. The module helps students to understand the interplay between economic, political, and socio-cultural aspects in shaping the governmental and non-governmental institutions of a modern economy. Case studies provide insights into a wide variety of economic actors and institutions across time and space. In the seminar, textbook readings and other academic readings ensure the transmission of the knowledge students need in order to write a successful end-of-term paper. In the accompanying tutorial, students have the opportunity: (i) to review the material taught in the seminar, and (ii) to develop and discuss paper topics and outlines.</p> <p>This module aims at transmitting fundamental knowledge on economic systems from a comparative social science perspective. Understanding the underlying institutions of economic systems constitutes an important basis for undergraduate studies in the fields of economics and management. With its interest in the diversity of capitalisms and related institutions, this module helps students appreciate public and economic affairs from the perspective</p>					

of political economy and promotes their capacity to anticipate the consequences of economic and managerial decisions, including their own. This module also promotes the students' capacity to write a scientific paper.

Intended Learning Outcomes

By the end of this module, students will be able to

- explain and compare among the key topics and themes in the field of comparative political economy;
- analyze the interplay of economic, political and socio-cultural institutions and actors and how these shape the development of modern economies;
- apply theoretical perspectives of comparative political economy to empirical cases, including to non-Western countries;
- construct well-supported arguments by designing an independent research paper.

Indicative Literature

Clift, B.(2014). *Comparative political economy. States, markets and global capitalism*, Palgrave.

Fulcher, J. (2004). *Capitalism: A very short introduction*. Oxford University Press.

Hall, P. A., Soskice, D. (eds.) (2001). *Varieties of capitalism: The institutional foundations of comparative advantage*. Oxford University Press.

Nölke, A., ten Brink, T., Claar, S., May, C. (2020). *State-permeated capitalism in large emerging economies*. Routledge.

Usability and Relationship to other Modules

- Mandatory elective for a major in GEM
- Mandatory elective module for a minor in GEM (a minor in GEM is feasible only with the modules "Development Economics" and "Environment and Resources" (default), or with "International Economics and Comparing Economic Systems")
- Elective for all other programs
- This module builds on the knowledge acquired in the first-year modules "Microeconomics" and "Macroeconomics" and expands students' understandings of these two disciplines by focusing on classical and contemporary work underlying the assumptions of economic systems and their diversity in forms across the globe as well as their political dimension. This module benefits from the contents taught in its accompanying module "International Economics" as the combination of the two modules places the study of the tenets of capitalism into the perspective of international trade, and vice versa. This module provides knowledge required for the third-year module "Managing Public and Nonprofit Organizations".

Examination Type: Module Examination

Assessment Type: Term Paper

Length: 2.500 - 4000 words

Weight: 100%

Scope: All intended learning outcomes of the module.

1.8 International Economics

Module Name		Module Code	Level (type)	CP
International Economics		CO-623	Year 2 (CORE)	7.5
Module Components				
Number	Name	Type		CP
CO-623-A	International Economics	Seminar		5
CO-623-B	International Economics - Tutorial	Tutorial		2.5
Module Coordinator	Program Affiliation		Mandatory Status	
Prof. Dr. T. Halaszovich	<ul style="list-style-type: none"> Global Economics and Management (GEM) 		Mandatory elective for GEM	
Entry Requirements		Frequency	Forms of Learning and Teaching	
Pre-requisites	Co-requisites	Knowledge, Abilities, or Skills	Annually (Spring)	<ul style="list-style-type: none"> Seminar (35 hours) Tutorial (17.5 hours) Private Study (135 hours)
<input checked="" type="checkbox"/> Microeconomics and Macroeconomics	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Notions in mathematics Basic knowledge in micro and macroeconomics 	Duration	
			1 semester	187.5 hours
Recommendations for Preparation				
<p>Students should review their notes and material in micro- and macroeconomics. A few weeks prior to the course, students are encouraged to keep track of the most recent developments in international trade policy and finance in the news.</p>				
Content and Educational Aims				
<p>This module examines the main concepts and methods of international economics. Its objective is to introduce students to different aspects of the international economy, including the dynamics and dimensions of economic globalization and related institutions, international trade theory and trade policy, and international capital movements and related issues. In the seminar, textbook-based lectures ensure the transmission of the necessary knowledge. The accompanying, interactive tutorials offer students the opportunity to review the material taught in the seminar and to train their capacity to differentiate among and explain the main concepts as a preparation for the final exam.</p> <p>This module aims at transmitting fundamental knowledge of international trade from an economics perspective. Understanding the underlying dynamics and policy implications of international trade constitutes an important basis for undergraduate studies in the fields of economics and management and helps students make sense of economic behaviors in many situations, including professional settings. With its interest in the implications of international trade, this module helps students to appreciate public and economic affairs from the perspective of global interdependence and promotes their capacity to anticipating the consequences of economic and business decisions, including their own, depending on the regions in which they operate.</p>				

Intended Learning Outcomes

By the end of this module, students will be able to

- label and describe the economic causes of trans-border economic activities;
- discuss the economic effects of trans-border activities on national economies and actors;
- apply their knowledge from Microeconomics to international trade topics;
- apply their knowledge from Macroeconomics to international macroeconomic policy issues;
- discuss the political aspects of international economic dynamics.

Indicative Literature

Krugman, P., Obstfeld. M. (2018). *International economics: Theory and policy - International edition*. London: Pearson.

King, P., King, S. (2008). *International economics, globalization, and policy: A reader*. New York: McGraw–Hill Irwin.

Usability and Relationship to other Modules

- Mandatory elective for a major in GEM
- Mandatory elective module for a minor in GEM (a minor in GEM is feasible only with the modules “Development Economics” and “Environment and Resources” (default), or with “International Economics and Comparing Economic Systems”
- Elective for all other programs
- This module builds on the knowledge acquired in the first-year modules “Microeconomics” and “Macroeconomics” and expands students’ understandings of these two disciplines by focusing on dynamics of international trade and related institutions.
- This module benefits from the contents taught in its accompanying module “Comparing Political Systems” as the combination of the two modules places the study of international trade in the perspective of political economy, and vice versa. This module provides knowledge that is required for the third-year modules “Information Economics”, “Advanced Econometrics” and “Managing Public and Nonprofit Organizations”.

Examination Type: Module Examination

Assessment Type: Written examination

Duration: 120 minutes

Weight: 100%

Scope: All intended learning outcomes of the module

1.9 Marketing

Module Name Marketing		Module Code CO-604	Level (type) Year 2 (CORE)	CP 7.5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>	
CO-604-A	Marketing	Lecture	5	
CO-604-B	Marketing - Seminar	Seminar	2.5	
Module Coordinator Prof. Dr. Tilo Halaszovich	Program Affiliation • International Business Administration (IBA)		Mandatory Status Mandatory elective for IBA and GEM	
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually (Fall)	<ul style="list-style-type: none"> • Lecture (35 hours) • Seminar (17.5 hours) • Private Studies (135 hours)
<input checked="" type="checkbox"/> Introduction to International Business <input checked="" type="checkbox"/> Introduction to Finance Accounting <input checked="" type="checkbox"/> Microeconomics <input checked="" type="checkbox"/> Macroeconomics	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> • Academic writing skills • Interest in creative thinking 	Duration 1 semester	Workload 187.5 hours
Recommendations for Preparation				
Students can benefit from prior knowledge in creativity techniques and problem solving strategies as provided in the "Creative Problem Solving" unit.				
Content and Educational Aims				
<p>The marketing concept is one of the most vital yet one of the most often misunderstood concepts in business management. Identifying target customers and their needs and developing products, services and brands designed to fulfill these needs is the major prerequisite for a successful business endeavor. Without being able to create relevant value for a well-defined group of target customers, a company will not operate successfully in the long run.</p> <p>This is an integrative and applications-oriented module in marketing planning and strategy. With a strong focus on customer-orientated marketing, the module spans across to main topics. Topic A covers the marketing environment, consumer behavior, market segmentation and positioning. In topic B the focus is shifted to the operational decision-making processes in marketing such as product, pricing, and distribution decisions.</p> <p>The main objective of this course is to provide students with a sound understanding of the basic marketing concepts and how they are applied in practice. Students will be able to analyze markets, competitors and customers and to define relevant markets and market segments. The lecture part of this module conveys the relevant concepts and theories on marketing management in an interactive manner. In the seminar part, students will apply this knowledge to real world challenges in marketing.</p>				
Intended Learning Outcomes				
By the end of this module, students should be able to				

- identify, explain, and solve critical marketing challenges such as the impact of demographic change on consumer segments or the changing influence of market participants in social media;
- develop a sound understanding of the mechanisms behind the marketing of branded goods and services;
- connect theoretical knowledge and practical tools (e.g. online surveys) to explain and evaluate marketing strategies;
- combine entrepreneurial spirit with marketing knowledge when creating and testing their marketing concepts;
- utilize analytical skills and apply relevant tools as required in the discipline.

Indicative Literature

Kotler, P. & Keller, K.L. (2015). Marketing Management, Global Edition – 15th edition. London: Pearson.

Keegan, W.J. & Green, M. C. (2011). Global Marketing – 6th edition. London: Pearson.

Usability and Relationship to other Modules

- Mandatory elective for a major in IBA and GEM
- This module prepares students for the Bachelor Thesis focusing on topics in marketing

Examination Type: Module Examination

Assessment Type: Term paper

Length: 4.000 words

Weight: 100%

Scope: All intended learning outcomes of the module

1.10 Organization and Human Resource Management

Module Name		Module Code	Level (type)	CP
Organization and Human Resource Management		CO-605	Year 2 (CORE)	7.5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>	
CO-605-A	Organization and Human Resource	Seminar	5	
CO-605-B	Organization and Human Resource - Tutorial	Tutorial	2.5	
Module Coordinator	Program Affiliation		Mandatory Status	
Prof. Dr. T. Halaszovich	<ul style="list-style-type: none"> International Business Administration (IBA) 		Mandatory elective for GEM and IBA	
Entry Requirements			Frequency	Forms of Learning and Teaching
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually (Spring)	<ul style="list-style-type: none"> Seminar (35 hours) Tutorial (17.5 hours) Private Study (135 hours)
<input checked="" type="checkbox"/> Microeconomics and Macroeconomics	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Academic writing skills Basic understanding of business 		
			Duration	Workload
			1 semester	187.5 hours
Recommendations for Preparation				
Before the first session, students should read the short article by John Beeson "Five questions every leader should ask about organizational design", published in the Harvard Business Review, January 2014.				
Content and Educational Aims				
<p>This module introduces students to fundamental concepts in organization theory, organizational behavior and human resource (HR) management, such as scientific management, the human relations school, learning, motivation, or turnover. It transmits an overview of organization theories and the history of managerial thought, as well as central concepts for diagnosing and shaping organizations, and the basic functions of human resource (HR) management. The module relies on project-based instruction and trains the students' capacity to communicate their organizational analysis and recommendations. The seminar introduces the concepts students need to know and work with in order to present a successful work at the end of the term. In the tutorials, students train their research and presentation skills and further integrate the material taught in the seminar via group discussions of concepts, case study problems, and guest lectures by practitioners in order to reflect upon their own work.</p> <p>This module transmits fundamental knowledge of organizations applied to a diversity of fields and sectors. Knowledge of organization theories and organizational behavior are fundamentals of undergraduate studies in the field of management. With its didactic focus on communication skills as conveyors of knowledge in organizational</p>				

analysis, this module provides our students with a solid preparation to their future professional responsibilities. Finally, understanding organizational dynamics and behavior in organizations further enables students to become responsible managers with an eye for the consequences of their decisions for the people they work with.

Intended Learning Outcomes

By the end of this module, students should be able to:

- label fundamental dimensions of organizational analysis and HRM;
- deduce organizational problems based on complementary dimensions;
- infer solutions to organizational problems through a team effort;
- predict and discuss the influence of organizational decisions on people;
- practice research and presenting as ways to plan for and communicate organizational development issues.

Indicative Literature

Grey, C. (2017). A very short, fairly interesting and reasonably cheap book about studying organizations - 4th edition. Thousand Oaks: Sage.

Morgan, G. (2006). Images of organization. Thousand Oaks: Sage.

Usability and Relationship to other Modules

- Mandatory elective for a major in GEM or IBA
- This module builds on the knowledge acquired in the first-year modules “Introduction to International Business” and expands students’ understanding of how businesses are run by focusing on the design of organizations, work and the management of human resource. This module benefits from the contents taught in its accompanying module “Marketing” as the combination of the two modules places the management of organizational structures into the perspective of the firm’s market positioning. This module provides knowledge that is required for the third-year GEM modules “Information Economics” and “Managing Public and Nonprofit Organizations”.

Examination Type: Module Examination

Assessment Type: Presentation

Duration: 45 minutes

Weight: 100%

Scope: All intended learning outcomes of the module

1.11 Advanced Econometrics

Module Name		Module Code	Level (type)	CP
Advanced Econometrics		CA-S-GEM-801	Year 3 (CAREER -- Specialization)	5
Module Components				
Number	Name		Type	CP
CA-GEM-801	Advanced Econometrics		Seminar	5
Module Coordinator	Program Affiliation		Mandatory Status	
Prof. Dr. Colin Vance	<ul style="list-style-type: none"> Global Economics and Management (GEM) 		Mandatory elective for GEM and IBA	
Entry Requirements			Frequency	Forms of Learning and Teaching
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually (Fall)	<ul style="list-style-type: none"> Seminar (35 hours) Private Study (90 hours)
<input checked="" type="checkbox"/> Major in IBA or GEM <input checked="" type="checkbox"/> Method and Skills elective "Econometrics"	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Notions of substantive versus statistical significance Basic knowledge of econometrics Academic writing skills 	Duration 1 semester	Workload 125 hours
Recommendations for Preparation				
<p>Students prepare best for this module by reading Edward Leamer's seminal article "Let's take the con out of Econometrics," published in the American Economic Review in 1983. The article covers many of the key issues that econometricians still grapple with today, such as whether randomization is essential.</p>				
Content and Educational Aims				
<p>The goal of this module is to build on the knowledge acquired in the "Econometrics" module, covering select advanced concepts of regression analysis as it applies to empirical social science research. The prime learning objective is to understand different approaches of secondary data analysis, where and how to apply particular econometric estimators, and their limitations. Particular emphasis will be placed on identifying exogenous sources of variation and methods for identifying causal relationships between variables. The class will also cover some of the opportunities and pitfalls associated with the analysis of "big data", drawing on current examples and available data. Textbook-based lectures ensure the transmission of the necessary knowledge. Exercises in class further promote the students' capacity to differentiate and debate the merits of alternative econometric techniques for testing particular hypotheses.</p> <p>This module aims at consolidating students' command of econometrics and related statistical techniques. A command of econometrics constitutes an important fundament for undergraduate studies in the fields of economics and helps students to critically appraise scientific statements about causality in many situations, including professional settings. This module helps students to assess and criticize econometric findings in</p>				

academic papers and promotes their capacity to differentiate between bias and statistical precision in interpreting their own econometric results.

Intended Learning Outcomes

By the end of this module, students will be able to

- identify the econometric method appropriate to specific data types;
- implement the method using R-software and interpret the results;
- design a research project that applies an econometric model to secondary data;
- write a term paper that develops a thesis, derives a testable hypothesis, presents results, and draws conclusions;
- articulate model results in terms that a lay person can understand;
- discriminate between the notions of “economic significance” and “statistical significance”.

Indicative Literature

Angrist, J. D., Pischke, J. S. (2014). *Mastering metrics: The path from cause to effect*. Princeton University Press.

Antonakis, J., Bendahan, S., Jacquart, P. Lalive, R. (2010). On making causal claims: A review and recommendations. *The Leadership Quarterly*, 21(6): 1086-1120.

Usability and Relationship to other Modules

- Mandatory elective specialization module for 3rd-year GEM and IBA major students.
- This module builds on the second-year methods module “Econometrics”, as well as on models and topics from the first-year modules “Microeconomics” and “Macroeconomics” and from the second-year modules “Environmental and Resource Economics” and “Development Economics”. The module expands students’ understandings of econometrics beyond the introductory level towards advanced techniques and applications.

Examination Type: Module Examination

Assessment Type: Term Paper

Length: 2.500 words

Weight: 100%

Scope: All intended learning outcomes of the module

1.12 Managing Public and Nonprofit Organizations

Module Name		Module Code	Level (type)	CP
Managing Public Nonprofit Organizations		CA-S-GEM-802	Year 3 (CAREER -- Specialization)	5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>		<i>CP</i>
CA-GEM-802	Managing Public and Nonprofit Organizations	Seminar		5
Module Coordinator	Program Affiliation	Mandatory Status		
Prof. Dr. T. Halaszovich	<ul style="list-style-type: none"> Global Economics and Management (GEM) 	Mandatory elective for GEM and IBA		
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	<ul style="list-style-type: none"> Seminar (35 hours) Private study (90 hours) 	
<input checked="" type="checkbox"/> Major in IBA or GEM	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> None. 		
		Duration	Workload	
		1 semester	125 hours	
Recommendations for Preparation				
<p>Students should read the paper "If apples were oranges: the public/nonprofit/business nexus in Peter Drucker's work" by Guy and Hitchcock, published in 2000 in the Journal of Management History (vol. 6, issue 1).</p>				
Content and Educational Aims				
<p>This module transmits state-of-the-art knowledge on management theories of organizations in the public and nonprofit sectors. Specifically, the module helps students distinguishing sectoral differences more clearly, as well as the challenges that arise at the interplay of sectors, for example when business firms contract with government, or when governments outsource service provision to nonprofit organizations in the face of policy problems than cannot be solved by markets or governments alone. A particular focus is therefore put on (i) contrasting topics of organization, strategic management and marketing, and their applicability to nonprofit and public organizations (e.g., income generation, purpose, public service motivation, or decision-making), and on (ii) deciphering the cross-sectoral implications of institutional change in society and markets.</p> <p>With its didactic focus on presenting and communication skills as conveyors of knowledge, this module provides our students with a solid preparation to their future professional responsibilities. Finally, understanding dynamics in cross-sector settings further enables students to become responsible managers with an eye for the consequences of their decisions for the broader organizational fields they will work in.</p>				

Intended Learning Outcomes

By the end of this module, students will be able to

- differentiate among the interests and main challenges of the three sectors at play in societies and markets;
- label and discuss the fundamental distinctive dimensions of public and nonprofit organizations;
- articulate the managerial challenges of managing public organizations and nonprofits compared to private firms;
- infer solutions to cross-sector problems in real case situations;
- explain the notion of institutional change from the perspectives of economics, management and organization theory
- practice field research and present the results as a way to plan for and communicate solutions to problems typical of public or nonprofit organizations.

Indicative Literature

Anheier, H. K. (2014). *Nonprofit organizations. Theory, management, policy*. London: Routledge.

Rainey, H. G. (2014). *Understanding and managing public organizations, fifth ed.* San Francisco: Jossey Bass.

Usability and Relationship to other Modules

- Mandatory elective specialization module for 3rd-year IBA and GEM major students.
- This module builds on models and topics from the first-year modules “Introduction to International Business” and “Introduction to Finance and Accounting” and all second-year GEM modules. The purpose is to widen the application scope of the general management theories and concepts taught in the program and to stimulate interest in career paths that reach beyond the corporate world and business sector.

Examination Type: Module Examination

Assessment Type: Presentation

Duration: 30 minutes

Weight: 100%

Scope: All intended learning outcomes of the module

1.13 Information Economics

Module Name		Module Code	Level (type)	CP
Information Economics		CA-S-GEM-803	Year 3 (CAREER - Specialization)	5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>		<i>CP</i>
CA-GEM-803	Information Economics	Seminar		5
Module Coordinator	Program Affiliation		Mandatory Status	
Prof. Dr. Gert Brunekreeft	<ul style="list-style-type: none"> Global Economics and Management (GEM) 		Mandatory elective for GEM and IBA	
Entry Requirements			Frequency	Forms of Learning and Teaching
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually (Spring)	<ul style="list-style-type: none"> Seminar (35 hours) Private Study (90 hours)
<input checked="" type="checkbox"/> Major in IBA or GEM	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Writing skills Logical and causality-based reasoning 	Duration	Workload
			1 semester	Total: 125 hours
Recommendations for Preparation				
Students prepare best for this module by reviewing their notes and material from first-year modules in Microeconomics and Macroeconomics.				
Content and Educational Aims				
This module relies on applied microeconomics and policy analysis in the field of information economics. The module aims to transmit skills in the application of theory to analyze real-world cases. The topics to be covered are the microeconomics of information, competition policy, economics of regulation, network externalities, and the economics of standards, including new technological developments. Case studies will focus on network industries like energy markets, telecommunications, and internet. The module introduces the concepts and theories students need to know and work with in order to submit a successful paper at the end of the term. The students further integrate the subject matter taught in the seminar in group discussions of concepts and case study problems.				

Intended Learning Outcomes

Upon completion of this module, students will be able to

- Distinguish among the key theoretical dimensions of information economics;
- apply microeconomics to analyze real-world cases in information economics;
- appraise examples of economic policies in information economics;
- assess and discuss key arguments in current debates on information;
- reflect on what constitutes a clear concise piece of academic writing.

Indicative Literature

Varian, H.R. (2010). *Intermediate microeconomics – a modern approach, 8th Edition*. Norton & Company.

Cabral, L. M. B. (2002). Chapter 17: Networks and Standards, in: *Introduction to industrial organization*. Cambridge MA: The MIT Press.

Usability and Relationship to other Modules

- Mandatory elective specialization module for 3rd-year GEM and IBA students
- This module builds on models and topics from the first-year modules “Microeconomics” and “Macroeconomics” and from the second-year modules “Environmental and Resource Economics” and “International Economics”. The module expands students’ understanding of these disciplines towards an in-depth exploration of the economic analysis and implications of networks and related industries and technologies.

Examination Type: Module Examination

Assessment Type: Term paper
words

Length: 2.500-3.000

Weight: 100%

Scope: All intended learning outcomes of the module

1.14 Lean Management

Module Name Lean Management		Module Code CA-S-IBA-801	Level (type) Year 3 (CAREER-Specialization)	CP 5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>	
CA-IBA-801	Lean Management	Lecture	5	
Module Coordinator Prof. Dr.-Ing. Steffen Christoph Eickemeyer	Program Affiliation • International Business Administration (IBA)		Mandatory Status Mandatory elective for IBA and GEM	
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	annually	<ul style="list-style-type: none"> Lecture (35 hours) Private Study (90 hours) 	
<input checked="" type="checkbox"/> Major in IBA or GEM	<input checked="" type="checkbox"/> None			
		1 semester	125 hours	
Recommendations for Preparation				
<p>Before the first session, students should familiarize themselves with Sanjay Bhasin (2015), <i>Lean Management Beyond Manufacturing, A Holistic Approach</i>. Springer; McAfee, A. & Brynjolfsson, E. (2012), "Big Data: The Management Revolution," <i>Harvard Business Review</i>, 1-9; Ustundag, A. & Cevikcan, E. (2017) <i>Industry 4.0: Managing The Digital Transformation</i>. Springer; Winkelhake, U.(2018) <i>The Digital Transformation of the Automotive Industry</i>. Springer.</p>				
Content and Educational Aims				
<p>The module engages with lean production and lean management. Articles are used to highlight issues scientists and managers are confronted with in practice and theory. Special emphasis is given to developing an understanding of how companies, especially production companies, are formed and shaped by ideas and concepts. Furthermore, this module examines the nature of organizations in a changing context and applies theories and strategies for managing change in a business environment. The module also engages in key issues affecting business life, focusing on production analysis. Topics include change management and time management. The target is to develop an understanding of the phenomenon of change and the factors that facilitate and hinder it. The lecture should familiarize students with the "lean philosophy." Students learn the success factors of lean management, lean organization, and lean office culture. They should be able to understand and apply the underlying methods. In addition, they deal critically with the application limits of lean management. The course also stimulates students' interest in exploring these topics further, for continued research and thesis work. The overall objective is to provide students with an explicit lean management-based mindset and a set of conceptual, analytical, and practical tools with which to come to terms with related contemporary topics such as industry 4.0, so that students should be able to challenge and improve existing practices and theories.</p>				
Intended Learning Outcomes				
<p>By the end of this module, students should be able to</p> <ul style="list-style-type: none"> illustrate an understanding of contemporary topics in lean management relating to theories, models, research methods and industrial applications; 				

- analyze published journal articles in the field of lean management and apply these theories to real-world cases;
- use the basics of production management and lean office culture;
- choose and use the right lean principles;
- develop a sensibility for the phenomenon of change and the factors that facilitate or hinder it;
- discuss strategies for managing change in an industrial environment;
- explain tips and tricks for application and implementation;
- practice industry-relevant behavior in their careers.

Indicative Literature

Bhasin, S. (2015). Lean management beyond manufacturing. New York: Springer.

Charron, R. et al. (2014). The lean management systems handbook. New York: Productivity Press.

Jones, E. (2014). Quality management for organizations using lean six sigma techniques. Boca Raton: CRC press.

Nicholas, J. (2018). Lean production for competitive advantage: a comprehensive guide to lean methodologies and management practices. New York: Productivity Press.

Paksoy, T., Weber, G.-H., Huber, S. (2019). Lean and Green Supply Chain Management. Berlin: Springer.

Yasuhiro, M., Yoshiteru, M. (ed.) (2015). Lean management of global supply chain. Singapore: World Scientific.

Usability and Relationship to other Modules

- Mandatory elective specialization modules for 3rd year IBA and GEM major students

Examination Type: Module Examination

Assessment Type: Presentation

Duration: 40 minutes

Weight: 100%

Scope: All intended learning outcomes of the module

1.15 Managerial Accounting

Module Name Managerial Accounting		Module Code CA-S-IBA-802	Level (type) Year 3 (CAREER-Specialization)	CP 5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>		<i>CP</i>
CA-IBA-802	Managerial Accounting	Seminar		5
Module Coordinator Prof. Dr. Tilo Halaszovich	Program Affiliation <ul style="list-style-type: none"> International Business Administration (IBA) 		Mandatory Status Mandatory elective for IBA and GEM	
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	Annually (Fall)	<ul style="list-style-type: none"> Seminar (35 hours) Private Studies (90 hours) 	
<input checked="" type="checkbox"/> Major in IBA or GEM	<input checked="" type="checkbox"/> None			
		Duration	Workload	
		1 semester	125 hours	
Recommendations for Preparation				
Students are expected to refresh their knowledge obtained from the module "Introduction to Finance and Accounting".				
Content and Educational Aims				
<p>The module aims to provide an overview and understanding of frontline topics in managerial accounting. The purpose is also to deepen students' understanding and stimulate their interest in exploring these topics further. The overall objective is to provide students with an explicit set of conceptual, analytical, and practical tools with which to come to terms with contemporary accounting issues, thus enabling them to challenge and improve existing practices and theories.</p> <p>The module covers a set of accounting topics that (a) are important in contemporary businesses, from both a theoretical and practical point of view, and (b) have not received extensive coverage in previous modules.</p>				
Intended Learning Outcomes				
By the end of this module, students should be able to:				
<ul style="list-style-type: none"> illustrate an understanding of contemporary topics in accounting relating to theories, models, and research methods, such as the differences between national accounting principles and their implications for international firms; analyze published journal articles in the field of accounting; discuss contemporary accounting phenomena and practices as outlined in academic and professional publications; apply contemporary accounting practices to real-world challenges. 				
Indicative Literature				
Garrison, R., Noreen E. and Brewer P. (2020). Managerial Accounting, 17th Ed. New York: MacGraw-Hill.				
Usability and Relationship to other Modules				
<ul style="list-style-type: none"> Mandatory elective specialization modules for 3rd year IBA and GEM major students 				

Examination Type: Module Examination

Assessment Type: Term paper

Duration: 2500 words

Weight: 100%

Scope: All intended learning outcomes of the module

1.16 Contemporary Topics in Marketing

Module Name Contemporary Topics in Marketing		Module Code CA-S-IBA-803	Level (type) Year 3 (CAREER-Specialization)	CP 5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>	
CA-IBA-803	Contemporary Topics in Marketing	Seminar	5	
Module Coordinator Prof. Dr. Tilo Halaszovich	Program Affiliation <ul style="list-style-type: none"> International Business Administration (IBA) 	Mandatory Status Mandatory elective for IBA and GEM		
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	<ul style="list-style-type: none"> Seminar (35 hours) Private Studies (90 hours) 	
<input checked="" type="checkbox"/> Major in IBA or GEM	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Basic Concepts of Marketing 		
		Duration	Workload	
		1 semester	125 hours	
Recommendations for Preparation				
It is recommended that students chose the “Marketing” module in their second year to gain in-depth knowledge of basic marketing concepts prior to this specialization. Students should at least familiarize themselves with basic marketing concepts as outlined in the syllabus of the “Marketing” module.				
Content and Educational Aims				
The module aims to provide an overview and understanding of frontline topics in marketing. The purpose is also to stimulate interest in a further exploration of these topics, for continued research and thesis work. The overall objective is to provide students with an explicit marketing-based mindset and a set of conceptual, analytical, and practical tools with which to come to terms with contemporary marketing issues, thus enabling them to challenge and improve existing practices and theories.				
The module covers a set of marketing topics that (a) are important in contemporary marketing, from both a theoretical and practical point of view, and (b) have not received extensive coverage in previous marketing-related modules.				
Intended Learning Outcomes				
By the end of this module, students should be able to				
<ul style="list-style-type: none"> illustrate an understanding of contemporary topics in marketing relating to theories, models, research methods and empirical phenomena; analyze and assess published journal articles in the field of marketing; discuss contemporary marketing phenomena and practices; design an adequate empirical research approach for an analysis of a contemporary topic in marketing. 				
Indicative Literature				
Hanlon, A. (2019). Digital Marketing - Strategic Planning & Integration. Thousand Oakes: Sage.				
Usability and Relationship to other Modules				

- Mandatory elective specialization module for 3rd year IBA and GEM major students

Examination Type: Module Examination

Assessment Type: Term paper

Length: 2500 words

Weight: 100%

Scope: All intended learning outcomes of the module

1.17 Internship / Startup and Career Skills

Module Name		Module Code	Level (type)	CP
Internship / Startup and Career Skills		CA-INT-900	Year 3 (CAREER)	15
Module Components				
Number	Name	Type		CP
CA-INT-900-0	Internship	Internship		15
Module Coordinator	Program Affiliation		Mandatory Status	
Predrag Tapavicki & Christin Klähn (CSC Organization); SPC / Faculty Startup Coordinator (Academic responsibility);	<ul style="list-style-type: none"> CAREER module for undergraduate study programs 		Mandatory for all undergraduate study programs except IEM	
Entry Requirements			Frequency	Forms of Learning and Teaching
Pre-requisites	Co-requisites	Knowledge, Abilities, or Skills	Annually (Spring/Fall)	<ul style="list-style-type: none"> Internship/Start-up Internship event Seminars, info-sessions, workshops and career events Self-study, readings, online tutorials
<input checked="" type="checkbox"/> at least 15 CP from CORE modules in the major	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Information provided on CSC pages (see below) Major specific knowledge and skills 	Duration 1 semester	
			Workload	375 Hours consisting of: <ul style="list-style-type: none"> Internship (308 hours) Workshops (33 hours) Internship Event (2 hours) Self-study (32 hours)
Recommendations for Preparation				
<ul style="list-style-type: none"> Reading the information in the menu sections titled “Internship Information,” “Career Events,” “Create Your Application,” and “Seminars & Workshops” at the Career Services Center website: https://jacobs-university.jobteaser.com/en/users/sign_in?back_to_after_login=%2F 				

- Completing all four online tutorials about job market preparation and the application process, which can be found here: https://jacobs-university.jobteaser.com/en/users/sign_in?back_to_after_login=%2F
- Participating in the internship events of earlier classes

Content and Educational Aims

The aims of the internship module are reflection, application, orientation, and development: for students to reflect on their interests, knowledge, skills, their role in society, the relevance of their major subject to society, to apply these skills and this knowledge in real life whilst getting practical experience, to find a professional orientation, and to develop their personality and in their career. This module supports the programs' aims of preparing students for gainful, qualified employment and the development of their personality.

The full-time internship must be related to the students' major area of study and extends lasts a minimum of two consecutive months, normally scheduled just before the 5th semester, with the internship event and submission of the internship report in the 5th semester. Upon approval by the SPC and CSC, the internship may take place at other times, such as before teaching starts in the 3rd semester or after teaching finishes in the 6th semester. The Study Program Coordinator or their faculty delegate approves the intended internship a priori by reviewing the tasks in either the Internship Contract or Internship Confirmation from the respective internship institution or company. Further regulations as set out in the Policies for Bachelor Studies apply.

Students will be gradually prepared for the internship in semesters 1 to 4 through a series of mandatory information sessions, seminars, and career events.

The purpose of the Career Services Information Sessions is to provide all students with basic facts about the job market in general, and especially in Germany and the EU, and services provided by the Career Services Center.

In the Career Skills Seminars, students will learn how to engage in the internship/job search, how to create a competitive application (CV, Cover Letter, etc.), and how to successfully conduct themselves at job interviews and/or assessment centers. In addition to these mandatory sections, students can customize their skill set regarding application challenges and their intended career path in elective seminars.

Finally, during the Career Events organized by the Career Services Center (e.g. the annual Jacobs Career Fair and single employer events on and off campus), students will have the opportunity to apply their acquired job market skills in an actual internship/job search situation and to gain their desired internship in a high-quality environment and with excellent employers.

As an alternative to the full-time internship, students can apply for the StartUp Option. Following the same schedule as the full-time internship, the StartUp Option allows students who are particularly interested in founding their own company to focus on the development of their business plan over a period of two consecutive months. Participation in the StartUp Option depends on a successful presentation of the student's initial StartUp idea. This presentation will be held at the beginning of the 4th semester. A jury of faculty members will judge the student's potential to realize their idea and approve the participation of the students. The StartUp Option is supervised by the Faculty StartUp Coordinator. At the end of StartUp Option, students submit their business plan. Further regulations as outlined in the Policies for Bachelor Studies apply.

The concluding Internship Event will be conducted within each study program (or a cluster of related study programs) and will formally conclude the module by providing students the opportunity to present on their internships and reflect on the lessons learned within their major area of study. The purpose of this event is not only to self-reflect on the whole internship process, but also to create a professional network within the academic community, especially by entering the Alumni Network after graduation. It is recommended that all three classes (years) of the same major are present at this event to enable networking between older and younger students and to create an educational environment for younger students to observe the "lessons learned" from the diverse internships of their elder fellow students.

Intended Learning Outcomes

By the end of this module, students should be able to

- describe the scope and the functions of the employment market and personal career development;
- apply professional, personal, and career-related skills for the modern labor market, including self-organization, initiative and responsibility, communication, intercultural sensitivity, team and leadership skills, etc.;
- independently manage their own career orientation processes by identifying personal interests, selecting appropriate internship locations or start-up opportunities, conducting interviews, succeeding at pitches or assessment centers, negotiating related employment, managing their funding or support conditions (such as salary, contract, funding, supplies, work space, etc.);
- apply specialist skills and knowledge acquired during their studies to solve problems in a professional environment and reflect on their relevance in employment and society;
- justify professional decisions based on theoretical knowledge and academic methods;

- reflect on their professional conduct in the context of the expectations of and consequences for employers and their society;
- reflect on and set their own targets for the further development of their knowledge, skills, interests, and values;
- establish and expand their contacts with potential employers or business partners, and possibly other students and alumni, to build their own professional network to create employment opportunities in the future;
- discuss observations and reflections in a professional network.

Indicative Literature

Not specified

Usability and Relationship to other Modules

- Mandatory for a major in BCCB, CBT, CS, EES, GEM, IBA, IRPH, ISCP, Math, MCCB, Physics, RIS, and SMP.
- This module applies skills and knowledge acquired in previous modules to a professional environment and provides an opportunity to reflect on their relevance in employment and society. It may lead to thesis topics.

Examination Type: Module Examination

Assessment Type: Internship Report or Business Plan and Reflection
 Scope: All intended learning outcomes

Length: approx. 3.500 words
 Weight: 100%

1.18 Bachelor Thesis and Seminar GEM

Module Name		Module Code	Level (type)	CP
Bachelor Thesis and Seminar GEM		CA-GEM-800	Year 3 (CAREER)	15
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>		<i>CP</i>
CA-GEM-800-T	Bachelor Thesis	Thesis		12
CA-GEM-800-S	Research Seminar	Seminar		3
Module Coordinator	Program Affiliation		Mandatory Status	
Prof. Dr. T. Halaszovich	<ul style="list-style-type: none"> Global Economics and Management (GEM) 		Mandatory for GEM	
Entry Requirements			Frequency	Forms of Learning and Teaching
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually	<ul style="list-style-type: none"> Seminar (17,5 hours) Supervision (3.5 hours) Own research and writing (354 hours)
<input checked="" type="checkbox"/> Major in GEM in graduating year	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Writing skills 	Duration	Workload
			1 semester	375 hours
Recommendations for Preparation				
Content and Educational Aims				
<p>In this module, students conduct in-depth research on a specific topic related to the GEM major. The topic may either be part of the supervisor's ongoing research or be suggested by the student her/himself, but supervisors hold the right to specify the topics ultimately. Data sources can be primary or secondary and can include online datasets, interviews, direct observations, or self-conducted surveys. Students will be evaluated on the breadth and quality of their research. The thesis must be submitted to a supervisor by the end of the examination period. The accompanying research seminar shows students how to narrow down a topic into a meaningful and manageable piece of research. Students will receive advice and learn how to structure their argumentation, their methodological approach, as well as on the presentation and visualization of their results. Moreover, students will acquire proficiency in techniques of localizing and utilizing academic output (monographs, edited volumes, journal articles, etc.) for their own research work. Ethical academic conduct and the various academic standard requirements in citation, referencing, and data documentation will be discussed in further detail.</p> <p>In this module, students practice academic research and writing independently, a necessary first step towards graduate studies in any field. Understanding the making of science by practicing it, further enables students to become responsible managers and citizens with a critical eye for the logical reasoning, data collection and analysis underlying scientific findings and discussions of topics that are of public and/or professional interest to them.</p>				

Intended Learning Outcomes

On completion of this module, students should be able to:

1. independently plan and organize advanced learning processes;
2. design and implement appropriate research methods taking full account of the range of alternative techniques and approaches;
3. collect, assess and interpret relevant information;
4. draw scientifically founded conclusions that consider social, scientific and ethical insights;
5. apply their knowledge and understanding to a context of their choice;
6. develop, formulate and advance solutions to problems and arguments in their subject area, and defend these through argument;
7. discuss information, ideas, problems and solutions with specialists and non-specialists;

Usability and Relationship to other Modules

- This module builds on all previous modules of the program. Students apply the knowledge, skills and competencies they acquired and practiced during their studies, including research methods and the ability to acquire additional skills independently as and if required.

Examination Type: Module Component Examinations

Module Component 1: Thesis

Assessment type: Thesis

Scope: All intended learning outcomes, mainly 1-6.

Weight: 80%

Length: approx. 6.000 – 8.000 words (15 – 25 pages), excluding front and back matter.

Module Component 2: Seminar

Assessment type: Presentation

Duration: approx. 15 to 30 minutes

Weight: 20%

Scope: The presentation focuses mainly on ILOs 6 and 7, but by nature of these ILOs it also touches on the others.

Completion: To pass this module, both module component examinations have to be passed with at least 45%.

Two separate assessments are justified by the size of this module and the fact that the justification of solutions to problems and arguments (ILO 6) and discussion (ILO 7) should at least have verbal elements. The weights of the types of assessments are commensurate with the sizes of the respective module components.

1.19 Jacobs Track Modules

1.19.1 Methods and Skills Modules

1.19.1.1 Applied Calculus

Module Name Applied Calculus		Module Code JTMS-MAT-08	Level (type) Year 1 (Methods)	CP 5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>		
JTMS-08	Applied Calculus	Lecture		5
Module Coordinator Marcel Oliver, Tobias Preußer	Program Affiliation • Jacobs Track – Methods and Skills		Mandatory Status Mandatory for GEM, IBA and IEM Mandatory elective for EES	
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	<ul style="list-style-type: none"> Lectures (35 hours) Private study (90 hours) 	
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Knowledge of Mathematics at high school level (Functions, graphs of functions, linear and polynomial functions, logarithms and exponential function, basic trigonometric functions, elementary methods for solving systems of linear and nonlinear equations) Some familiarity with elementary calculus (limits, derivatives) is helpful, but not required. 		
		Duration	Workload	
		1 semester	125 hours	
Recommendations for Preparation				
None.				
Content and Educational Aims				
<p>This module is an introduction to Calculus for students in life sciences, applied engineering, humanities and social science majors. It gives a broad overview of the methods of Calculus, putting more emphasis on applications, rather than on mathematical rigor. Most of the concepts and methods are backed up by examples from chemistry, biology, economics and/or other sciences. In this module students enhance both their quantitative problem-solving skills as well as their conceptual understanding of mathematical methods.</p>				

The lecture comprises the following topics:

- Brief review of elementary functions and their graphs
- Intuitive understanding of limits; horizontal and vertical asymptotes
- Derivatives and their computation
- Applications of derivatives (interpretation of derivatives, their units, local linear approximation, error propagation, optimization problems)
- Brief introduction to functions of several variables, partial derivatives, local minima and maxima
- Integrals and their computation
- Applications of integrals (accumulated change, average value, applications in probability: density functions and cumulative distribution functions)
- Brief introduction to differential equations.

Intended Learning Outcomes

By the end of the module, students will be able to

- apply the fundamental concepts of Calculus in structured situations;
- command the methods described in the content section of this module description to the extent that they can solve standard text-book problems reliably and with confidence;
- explain importance of the methods of Calculus in problems arising from applications;
- understand the methods of Calculus, used in other modules, as well as in scientific literature.

Indicative Literature

D. Hughes-Hallett, A. Gleason, P. Lock, D. Flath, et al. (2010/2013). Applied Calculus, 4th or 5th edition. Hoboken: Wiley.

Usability and Relationship to other Modules

- The module is a mandatory / mandatory elective module of the Methods and Skills area that is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules).
- The module serves as preparation for the 2nd year IEM CORE module Operations Research.
- This serves as preparation for the 1st year GEM and IBA modules Microeconomics, Macroeconomics and Introduction to Finance and Accounting
- A mathematically rigorous treatment of Calculus is provided in the module "Analysis I".
- The first year modules *Calculus and Elements of Linear Algebra I+II* can be used in place of the modules *Applied Calculus* and *Finite Mathematics*, respectively, to satisfy the graduation requirements in majors in which they are mandatory.
- Mandatory for GEM, IBA and IEM.
- Mandatory elective for EES.
- Elective for all other study programs.

Examination Type: Module Examination

Assessment type: Written examination

Duration: 120 min

Weight: 100%

Scope: All intended learning outcomes of this module

1.19.1.2 Applied Statistics with R

Module Name		Module Code	Level (type)	CP
Applied Statistics with R		JTMS-MET-03	Year 1 (Methods)	5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>	
JTMS-03	Applied Statistics with R	Lecture & Lab	5	
Module Coordinator	Program Affiliation	Mandatory Status		
Adalbert Wilhelm	<ul style="list-style-type: none"> Jacobs Track – Methods and Skills 	Mandatory for GEM and IEM, Mandatory elective for SMP, IBA, ISCP, IRPH		
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	Annually (Spring)	<ul style="list-style-type: none"> Lecture (17.5 hours) Lab (17.5 hours) Homework and self-study (90 hours) 	
☒ None	☒ None			
		• none	125 hours	
Duration				
		1 semester		
Recommendations for Preparation				
Get acquainted to statistical thinking by watching online videos for introductory probability and statistics as well as paying attention whenever arguments are backed up by empirical data.				
Content and Educational Aims				
<p>We live in a world full of data and more and more decisions are taken based on a comprehensive analysis of data. A central method of data analysis is the use of models describing the relationship between a set of predictor variables and a response. This module provides a thorough introduction to quantitative data analysis covering graphical representations, numerical summary statistics, correlation, and regression models. The module also introduces the fundamental concepts of statistical inference. Students learn about the different data types, how to best visualize them and how to draw conclusions from the graphical representations. Students will learn in this module the ideas and techniques of regression models within the generalized linear model framework involving multiple predictors and co-variates. Students will learn how to become an intelligent user of statistical techniques from a consumers perspective to assess the quality of presented statistical results and to produce high-quality analyses by themselves. By using illustrative examples from economics, engineering, and the natural and social sciences students will gain the relevant background knowledge for their specific major as well as an interdisciplinary glimpse of other research fields. The general objective of the module is to enable students to become skilled statistical modelers who are well versed in the various assumptions, limitations, and controversies of statistical models and their application. Regular exercises and practical sessions will corroborate the students' proficiency with the statistical software R.</p>				
Intended Learning Outcomes				

By the end of this module, students should be able to:

- apply basic techniques in statistical modeling and quantitative research methods
- describe fundamental statistical concepts, procedures, their assumptions and statistical fallacies
- explain the potential of using quantitative methods in all fields of applications;
- express informed skepticism of the limitations of statistical reasoning;
- interpret statistical modeling results in scientific publications;
- perform basic and intermediate-level statistical analyses of data, using R.

Indicative Literature

Michael J. Crawley (2013). *The R Book*, Second Edition. Hoboken: John Wiley & Sons.

Peter Daalgaard (2008). *Introductory Statistics with R*. Berlin: Springer.

John Maindonald, W. John Braun (2010). *Data Analysis and Graphics Using R – an Example-Based Approach*, Third Edition, Cambridge Series. In *Statistical and Probabilistic Mathematics*. Cambridge: Cambridge University Press.

Christopher Gandrud (2015). *Reproducible Research with R and RStudio*, Second Edition. The R Series, Chapman & Hall/CRC Press.

Randall E. Schumacker (2014). *Learning Statistics Using R*. Thousand Oaks: Sage.

Charles Wheelan (2013). *Naked Statistics: Stripping the Dread from The Data*. New York: W.W. Norton & Company.

Usability and Relationship to other Modules

- The module is a mandatory / mandatory elective module of the Methods and Skills area that is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules).
- Quantitative analytical skills are used and needed in many modules of all study programs.
- Pre-requisite for Econometrics.
- This module introduces students to R in preparation for the 2nd year mandatory method module on econometrics and 3rd year GEM module on advanced econometrics; the statistics skills prepare students for all 2nd and 3rd year GEM modules and the thesis.
- Mandatory for a major in GEM and IEM.
- Mandatory elective for a major in IBA, IRPH, ISCP and SMP
- Elective for all other study programs.

Examination Type: Module Examination

Type: Written examination

Duration: 120 min

Weight: 100%

During the examination students use the software R as an auxiliary resource approved by the Instructor of Record.

Scope: All intended learning outcomes of the module.

1.19.1.3 Qualitative Research Methods

Module Name		Module Code	Level (type)	CP
Qualitative Research Methods		JTMS-MET-04	Year 2 (Methods)	5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>	
JTMS-04	Qualitative Research Methods	Lecture	5	
Module Coordinator	Program Affiliation		Mandatory Status	
Margrit Schreier	<ul style="list-style-type: none"> Jacobs Track – Methods and Skills 		Mandatory for GEM, IBA, IRPH, ISCP, SMP Mandatory elective for EES	
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i> <input checked="" type="checkbox"/> None		Annually (Fall)	<ul style="list-style-type: none"> In-class contact time (35 hours) Private study (90 hours) 	
<i>Co-requisites</i> <input checked="" type="checkbox"/> None				
<i>Knowledge, Abilities, or Skills</i> <ul style="list-style-type: none"> none 		Duration	Workload	
		1 semester	125 hours	
Recommendations for Preparation				
Patton, Michael Quinn (2015). <i>Qualitative evaluation and research methods</i> (4th ed.). Thousand Oaks etc.: Sage, chapter 2				
Content and Educational Aims				
<p>Qualitative researchers explore the structure of everyday life and the meaning that events, other persons and their actions hold for us. To do so, they take an in-depth look at a few selected cases, such as organizations, campaigns, or people. We will look at the rationale and constructivist and interpretivist principles underlying qualitative research and from there move on to specific designs (such as grounded theory or ethnography), design principles (such as purposive strategies for selecting cases), and research methods. The focus of the module will be on learning about and trying out methods for collecting and analyzing qualitative data. Among methods for collecting qualitative data, relevant topics include semi-structured and narrative interviews, focus groups, observation, working with documents and with visual elements. Methods for analyzing qualitative data include, for example, coding, qualitative content analysis, discourse analysis, visual analysis, semiotics or iconography.</p> <p>The module has a strong hands-on component. It is held in part as a seminar and in part as a lab where students apply the methods to data from their own fields of study. During the lab sessions, students are required to participate in and report on activities involving the application and testing of selected methods. For assessment and grading, students will carry out their own small research project, in which they bring to bear different methods to a topic of their choice.</p>				

Intended Learning Outcomes

By the end of this module, students should be able to:

- explain the principles underlying qualitative research;
- apply basic qualitative approaches and designs;
- identify and address ethical issues arising in qualitative research;
- apply strategies for purposefully selecting participants and cases;
- apply methods for collecting qualitative data;
- apply methods for analyzing qualitative data;
- know what to look for in evaluating qualitative research.

Indicative Literature

Dresing, T., Pehl, T., & Schmieder, C. (2015). Manual (on) transcription. Transcription conventions, software guides, and practical hints for qualitative researchers. 3rd English edition. Marburg. Available under: <http://www.audiotranskription.de/english/transcription-practicalguide.htm>

Flick, U. (2018) (ed.). The SAGE handbook of qualitative data collection. Los Angeles, CA: Sage.

Flick, U. (2019). Introduction to qualitative research. 6th edition. London etc.: Sage.

Patton, M.Q. (2015). Qualitative evaluation and research methods. 4th edition. Thousand Oaks etc.: Sage.

Rose, G. (2016). Visual methodologies. 4th edition. London: Sage.

Usability and Relationship to other Modules

- The module is a mandatory / mandatory elective module of the Methods and Skills area that is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules).
- Complements Method and Skills module Data Collection and Empirical Research Methodologies.
- This module prepares students for the GEM and IBA 2nd year module on organization and HRM as well as Marketing, the GEM 3rd year module on public and nonprofit management, the IBA 3rd year module on Contemporary Topics in Marketing, and the thesis.
- Mandatory for a major in GEM, IBA IRPH, ISCP, SMP.
- Mandatory elective for a major in EES.
- Elective for all other study programs.

Examination Type: Module Examination

Assessment type: Research project (including abstract, ethics statement, and lab report on methods implementation, findings, and evaluation) Length: 5.000 words (for groups of three students)

Weight: 100%

Scope: All intended learning outcomes of the module.

1.19.1.4 Econometrics

Module Name		Module Code	Level (type)	CP
Econometrics		JTMS-MET-05	Year 2 (Methods)	5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>		<i>CP</i>
JTMS-05	Econometrics	Seminar		5
Module Coordinator	Program Affiliation		Mandatory Status	
Prof. Dr. Colin Vance	<ul style="list-style-type: none"> Jacobs Track – Methods and Skills 		Mandatory for GEM Mandatory elective for IBA	
Entry Requirements			Frequency	Forms of Learning and Teaching
<i>Pre-requisites</i> <input checked="" type="checkbox"/> Applied statistics with R <i>Co-requisites</i> <input checked="" type="checkbox"/> None			Annually (Spring)	<ul style="list-style-type: none"> Seminar (35 hours) Private study (90 hours)
<i>Knowledge, Abilities, or Skills</i> <ul style="list-style-type: none"> Knowledge of the ordinary least-squares regression model. Ability to estimate regression models using R software. Skills in conducting statistical inference tests. 			Duration	Workload
			1 semester	125 hours
Recommendations for Preparation				
An accessible overview of regression analysis can be found in Sykes, A.O. (1993). An Introduction to Regression Analysis. Coase-Sandor Institute for Law & Economics, Univ. of Chicago Working Paper No. 20. https://chicagounbound.uchicago.edu/law_and_economics/51/ . Students are also encouraged to read: Ziliak, Stephen T. (2008). Retrospectives: Guinnessometrics: The Economic Foundation of “Student’s” <i>t</i> . Journal of Economic Perspectives 22(4): 199-216.				
Content and Educational Aims				
This module focuses on the application of econometric methods to the analysis of secondary data. Specifically, the goal is to expose students to some of the issues and challenges typically confronted by econometricians when analyzing empirical data in the realms of social science research, business and finance. Emphasis will be placed on the intuition underlying various commonly applied econometric techniques and on the steps needed to implement them. The module expands on the knowledge acquired in statistics and intensifies discussions of multiple regression analysis. The general objective is to become familiar with contemporary methods that are used in econometric and business analyses and to become a critical reader of case studies. In this regard, a clear distinction will be drawn along two dimensions: between questions of statistical significance versus those of economic or social significance; and between correlation and causation. The module takes a practical approach that covers how to estimate econometric models using R software. Sessions will often include computer applications to foster understanding of the discussed topics.				

Intended Learning Outcomes

By the end of this module, students should be able to:

- explain the mechanics and assumptions underpinning the Ordinary Least Squares (OLS) regression model;
- estimate an OLS model on secondary data using R-software;
- interpret the coefficient estimates from an OLS model with respect to their sign and magnitude;
- conduct one- and two-sided tests of the statistical significance of coefficients.

Indicative Literature

Abadie, A. & Cattaneo, M.D. (2018). Econometric methods for program evaluation. *Annual Review of Economics*, 10, 465-503.

Angrist, J.D. & Pischke, J.S. (2014). *Mastering'metrics: The path from cause to effect*. Princeton University Press.

Kabacoff, R. (2015). *R in action: Data analysis and graphics with R*. Chapter 8. Manning Publications Co.

Wooldridge, J. M. (2015). *Introductory econometrics: A modern approach*. 6th edition. Cambridge Learning.

Ziliak, Stephen T. (2008). Guinnessometrics: The economic foundation of "student's". *Journal of Economic Perspectives* 22(4), 199-216.

Usability and Relationship to other Modules

- The module is a mandatory / mandatory elective module of the Methods and Skills area that is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules).
- This module builds on models and topics from the first-year modules "Microeconomics" and "Macroeconomics" and from the second-year modules "Environmental and Resource Economics" and "Development Economics"
- This module introduces students to R in preparation for the 2nd year mandatory method module on econometrics and 3rd year GEM module on advanced econometrics; the statistics skills prepare students for all 2nd and 3rd year GEM modules and the thesis
- This module prepares students in IBA for the analysis of data in the 2nd year modules International Strategic Management and Marketing and the 3rd year module Contemporary Topics in Marketing and the thesis
- Mandatory for a major in GEM.
- Mandatory elective for a major in IBA
- Elective for all other study programs.

Examination Type: Module Examination

Assessment type: Written examination

Duration: 120 min

Weight: 100%

Scope: All intended learning outcomes of the module.

1.19.2 Big Questions Modules

1.19.2.1 Water: The Most Precious Substance on Earth

Module Name			Module Code	Level (type)	CP
Water: The Most Precious Substance on Earth			JTBQ-BQ-002	Year 3 (Jacobs Track)	5
Module Components					
<i>Number</i>	<i>Name</i>			<i>Type</i>	<i>CP</i>
JTBQ-002	Water: The Most Precious Substance on Earth			Lecture/Tutorial	5
Module Coordinator	Program Affiliation			Mandatory Status	
M. Bau and D. Mosbach	<ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs except IEM 			<ul style="list-style-type: none"> Mandatory elective for students of all undergraduate study programs, except IEM 	
Entry Requirements			Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually (part I: Fall; part II: Spring)	<ul style="list-style-type: none"> Lectures (17.5 hours) Project work (90 hours) Private study (17.5 hours) 	
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> The ability and openness to engage in interdisciplinary issues of global relevance Media literacy, critical thinking, and a proficient handling of data sources 			
			Duration	Workload	
			2 semesters	125 hours	
Recommendations for Preparation					
Critically following media coverage on the module's topics in question.					

Content and Educational Aims

All “Big Questions” (BQ) modules deal with the economic, technological, societal, and environmental contexts of the global issues and challenges of the coming decades. BQ modules intend to raise awareness of those challenges and broaden students’ horizons with applied problem solving beyond the borders of their own disciplines. Knowledge and skills offered in the interdisciplinary BQ modules support students in their development to become informed and responsible citizens in a global society.

Water is the basic prerequisite for life on our planet, but it has become a scarce resource and a valuable commodity. Water is of fundamental importance to the world’s economy and global food supply, in addition to being a driving force behind geopolitical conflict. In this module, the profound impact of water on all aspects of human life will be addressed from very different perspectives: from the natural and environmental sciences and engineering, and from the social and cultural sciences.

Following topical lectures in the Fall semester, students will work on projects on the occasion of the World Water Day (March 22) in small teams comprised of students from various disciplines and with different cultural backgrounds. This teamwork will be accompanied by related tutorials.

Intended Learning Outcomes

Students acquire transferable and key skills in this module.

By the end of this module, students will be able to

- use their disciplinary factual and methodological knowledge to reflect on interdisciplinary questions by comparing approaches from various disciplines;
- advance a knowledge-based opinion on the complex module topics: on the physio-chemical properties of water, its origin and history, on the importance of water as a resource, on physical and economic freshwater scarcity, on the risks of water pollution and the challenges faced by waste water treatment, on the concept of virtual water, on the bottled water industry, and on the cultural values and meanings of water;
- formulate coherent written and oral contributions (e.g., to panel discussions) on the topic;
- perform well-organized teamwork;
- present a self-designed project in a university-wide context.

Indicative Literature

Finney, John (2015). *Water. A Very Short Introduction*. Oxford: Oxford University Press.

Zetland, David (2011). *The End of Abundance: Economic Solutions to Water Scarcity*. California: Aguanomics Press.

United Nation (January 2016): Sustainable Development Goals. Retrieved from <https://www.ipcc.ch>

Usability and Relationship to other Modules

- This module is a mandatory elective module in the Big Questions area, which is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules).
- Students are encouraged to relate the content of their previous modules to the topics of this module and contribute their knowledge and competencies to class discussions and activities.

Examination Type: Module Examination

Assessment Component 1: Written examination

Duration: 60 min
Weight: 50%

Assessment Component 2: Team project

Weight: 50%

Scope: All intended learning outcomes of the module

Completion: This module is passed with an assessment-component weighted average grade of 45% or higher.

1.19.2.2 Ethics in Science and Technology

Module Name			Module Code	Level (type)	CP
Ethics in Science and Technology			JTBQ-BQ-003	Year 3 (Jacobs Track)	5.0
Module Components					
Number	Name		Type		CP
JTBQ-003	Ethics in Science and Technology		Lecture /Projects		5.0
Module Coordinator	Program Affiliation			Mandatory Status	
A. Lerchl	<ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs, except IEM 			<ul style="list-style-type: none"> Mandatory for CBT Mandatory elective for students of all undergraduate study programs, except IEM 	
Entry Requirements			Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Each semester (Fall & Spring)	<ul style="list-style-type: none"> Lectures (35 hours) Project work (55 hours) Private study (35 hours) 	
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> The ability and openness to engage in interdisciplinary issues of global relevance Media literacy, critical thinking, and a proficient handling of data sources 			
			Duration	Workload	
			1 semester	125 hours	
Recommendations for Preparation					
Critically following media coverage of the scientific topics in question.					

Content and Educational Aims

All “Big Questions” (BQ) modules deal with the economic, technological, societal, and environmental contexts of the global issues and challenges of the coming decades. BQ modules intend to raise awareness of those challenges and broaden students’ horizons with applied problem solving that extends beyond the borders of their own disciplines. Knowledge and skills offered in the interdisciplinary BQ modules support students in their development to become informed and responsible citizens in a global society.

Ethics is an often neglected, yet essential part of science and technology. Our decisions about right and wrong influence the way in which our inventions and developments change the world. A wide array of examples will be presented and discussed, e.g., the foundation of ethics, individual vs. population ethics, artificial life, stem cells, animal rights, abortion, pre-implantation diagnostics, legal and illegal drugs, the pharmaceutical industry, gene modification, clinical trials and research with test persons, weapons of mass destruction, data fabrication, and scientific fraud.

Intended Learning Outcomes

Students acquire transferable and key skills in this module.

By the end of this module, students will be able to

- use their disciplinary factual and methodological knowledge to reflect on interdisciplinary questions by comparing approaches from various disciplines;
- summarize and explain ethical principles;
- critically look at scientific results that seem too good to be true;
- apply the ethical concepts to virtually all areas of science and technology;
- discover the responsibilities of society and of the individual for ethical standards;
- understand and judge the ethical dilemmas in many areas of the daily life;
- discuss the ethics of gene modification at the level of cells and organisms;
- reflect on and evaluate clinical trials in relation to the Helsinki Declaration;
- distinguish and evaluate the ethical guidelines for studies with test persons;
- complete a self-designed project;
- overcome general teamwork problems;
- perform well-organized project work.

Indicative Literature

Not specified.

Usability and Relationship to other Modules

- Mandatory for CBT
- This module is a mandatory elective module in the Big Questions area that is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules).
- Students are encouraged to relate the content of their previous modules to the topics of this module and contribute their knowledge and competencies to class discussions and activities.

Examination Type: Module Examination

Assessment Component 1: Written examination

Duration: 60 min

Weight: 50%

Assessment Component 2: Team project

Weight: 50%

Scope: All intended learning outcomes of the module

Completion: This module is passed with an assessment-component weighted average grade of 45% or higher.

1.19.2.3 Global Health – Historical context and future challenges

Module Name		Module Code	Level (type)	CP
Global Health – Historical context and future challenges		JTBQ-BQ-004	Year 3 (Jacobs Track)	5
Module Components				
Number	Name	Type		CP
JTBQ-004	Global Health – Historical context and future challenges	Lecture		5
Module Coordinator	Program Affiliation	Mandatory Status		
A. M. Lisewski	<ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs, except IEM 	<ul style="list-style-type: none"> Mandatory elective for students of all undergraduate study programs, except IEM 		
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	Annually (Fall)	<ul style="list-style-type: none"> Lectures (35 hours) Private study (90 hours) 	
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None			
<i>Knowledge, Abilities, or Skills</i>		Duration	Workload	
<ul style="list-style-type: none"> The ability and openness to engage in interdisciplinary issues of global relevance Media literacy, critical thinking, and a proficient handling of data sources 		1 semester	125 hours	
Recommendations for Preparation				
Critically following media coverage on the module's topics in question.				

Content and Educational Aims

All “Big Questions” (BQ) modules deal with the economic, technological, societal, and environmental contexts of the global issues and challenges of the coming decades. BQ modules intend to raise awareness of those challenges and broaden students’ horizons with applied problem solving beyond the borders of their own disciplines. Knowledge and skills offered in the interdisciplinary BQ modules support students in their development to become informed and responsible citizens in a global society.

This module gives a historical, societal, technical, scientific, and medical overview of the past and future milestones and challenges of global health. Particular focus is put on future global health issues in a world that is interconnected both through mobility and communication networks. This module presents the main milestones along the path to modern health systems, including the development of public hygiene, health monitoring and disease response, and health-related breakthroughs in science, technology, and the economy. Focus is given to pediatric, maternal, and adolescent health, as these are the areas most critical to the well-being of future generations. This module also provides key concepts in global health, epidemiology, and demographics, such as the connection between a society’s economic level and its population’s health status, measures of health status, demographic and epidemiologic transitions, and modern issues such as the growing fragmentation (at a personal level) of disease conditions and the resulting emergence of personalized medicine. Finally, attention is also given to less publicly prominent global health issues, such as re-emerging diseases, neglected tropical diseases, and complex humanitarian crises.

Intended Learning Outcomes

Students acquire transferable and key skills in this module.

By the end of this module, students will be able to

- use their disciplinary factual and methodological knowledge to reflect on interdisciplinary questions by comparing approaches from various disciplines;
- explain the historical context of current global health surveillance, response systems, and institutions;
- discuss and evaluate the imminent and future challenges to public hygiene and response to disease outbreaks in the context of a global societal network.

Indicative Literature

Richard Skolnik (2015). Global Health 101 (Essential Public Health). Burlington: Jones and Bartlett Publishers, Inc.

Usability and Relationship to other Modules

- The module is a mandatory elective module in the Big Questions area, which is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules).
- Students are encouraged to relate the content of their previous modules to the topics of this module and contribute their knowledge and competencies to class discussions and activities.

Examination Type: Module Examination

Assessment Type: Written examination
Scope: All intended learning outcomes of the module

Duration: 60 min.
Weight: 100%

1.19.2.4 Global Existential Risks

Module Name		Module Code	Level (type)	CP
Global Existential Risks		JTBQ-BQ-005	Year 3 (Jacobs Track)	2.5
Module Components				
Number	Name	Type	CP	
JTBQ-005	Global Existential Risks	Lecture	2.5	
Module Coordinator	Program Affiliation		Mandatory Status	
M. A. Lisewski	<ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs except IEM 		<ul style="list-style-type: none"> Mandatory elective for students of all undergraduate study programs except IEM 	
Entry Requirements			Frequency	Forms of Learning and Teaching
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually (Spring)	<ul style="list-style-type: none"> Lectures (17.5 hours) Private study (45 hours)
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> The ability and openness to engage in interdisciplinary issues of global relevance Media literacy, critical thinking, and a proficient handling of data sources 		
			Duration	Workload
			1 semester	62.5 hours
Recommendations for Preparation				
Critically following media coverage on the module's topics in question.				
Content and Educational Aims				
<p>All "Big Questions" (BQ) modules deal with the economic, technological, societal, and environmental contexts of the global issues and challenges of the coming decades. BQ modules intend to raise awareness of those challenges and broaden students' horizons with applied problem solving beyond the borders of their own disciplines. Knowledge and skills offered in the interdisciplinary BQ modules support students in their development to become informed and responsible citizens in a global society.</p> <p>The more we develop science and technology, the more we also learn about catastrophic and, in the worst case, even existential global dangers that put the entire human civilization at risk of collapse. These doomsday scenarios therefore directly challenge humanity's journey through time as an overall continuous and sustainable process that progressively leads to a more complex but still largely stable human society. The module presents the main</p>				

known varieties of existential risks, including, for example, astrophysical, planetary, biological, and technological events or critical transitions that have the capacity to severely damage or even eradicate earth-based human civilization as we know it. Furthermore, this module offers a description of the characteristic features of these risks in comparison to more conventional risks, such as natural disasters, and a classification of global existential risks based on parameters such as range, intensity, probability of occurrence, and imminence. Finally, this module reviews several hypothetical monitoring and early warning systems as well as analysis methods that could potentially be used in strategies, if not to eliminate, then at least to better understand and ideally to minimize imminent global existential risks. This interdisciplinary module will allow students to explore this topic across diverse subject fields.

Intended Learning Outcomes

Students acquire transferable and key skills in this module.

By the end of this module, students will be able to

- use their factual and methodological knowledge to reflect on interdisciplinary questions by comparing approaches from various disciplines;
- explain the varieties of global existential risks;
- discuss approaches to minimize these risks;
- formulate coherent written and oral contributions on this topic.

Indicative Literature

Nick Bostrom, Milan M. Cirkovic (eds.) (2011). Global Catastrophic Risk. Oxford: Oxford University Press.

Murray Shanahan (2015). The Technological Singularity. Cambridge: The MIT Press.

Martin Rees (2003) Our Final Hour. New York: Basic Books.

Usability and Relationship to other Modules

- This module is a mandatory elective module in the Big Questions area, which is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules).
- Students are encouraged to relate the content of their previous modules to the topics of this module and contribute their knowledge and competencies to class discussions and activities.

Examination Type: Module Examination

Assessment Type: Written examination
Scope: All intended learning outcomes of the module

Duration: 60 min.
Weight: 100%

1.19.2.5 Future: From Predictions and Visions to Preparations and Actions

Module Name		Module Code	Level (type)	CP
Future: From Predictions and Visions to Preparations and Actions		JTBQ-BQ-006	Year 3 (Jacobs Track)	2.5
Module Components				
Number	Name	Type		CP
JTBQ-006	Future: From Predictions and Visions to Preparations and Actions	Lecture		2.5
Module Coordinator	Program Affiliation		Mandatory Status	
Joachim Vogt	<ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs, except IEM 		<ul style="list-style-type: none"> Mandatory elective for students of all undergraduate study programs, except IEM 	
Entry Requirements			Frequency	Forms of Learning and Teaching
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually (Spring)	<ul style="list-style-type: none"> Lecture (17.5 hours) Private study (45 hours)
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> The ability and openness to engage in interdisciplinary issues of global relevance Media literacy, critical thinking, and a proficient handling of data sources 		
			1 semester	62.5 hours
Recommendations for Preparation				
Critically following media coverage of the module's topics in question.				

Content and Educational Aims

All “Big Questions” (BQ) modules deal with the economic, technological, societal, and environmental contexts of the global issues and challenges of the coming decades. BQ modules intend to raise awareness of those challenges and broaden students’ horizons with applied problem solving that extend beyond the borders of their own disciplines. Knowledge and skills offered in the interdisciplinary BQ modules support students in their development to become informed and responsible citizens in a global society.

This module addresses selected topics related to the future as a general concept in science, technology, culture, literature, ecology, and economy, and it consists of three parts. The first part (Future Continuous) discusses forecasting methodologies rooted in the idea that key past and present processes are understood and continue to operate such that future developments can be predicted. General concepts covered in this context include determinism, uncertainty, evolution, and risk. Mathematical aspects of forecasting are also discussed. The second part (Future Perfect) deals with human visions of the future as reflected in the arts and literature, ranging from ideas of utopian societies and technological optimism to dystopian visions in science fiction. The third part (Future Now) concentrates on important current developments—such as trends in technology, scientific breakthroughs, the evolution of the Earth system, and climate change—and concludes with opportunities and challenges for present and future generations.

Intended Learning Outcomes

Students acquire transferable and key skills in this module.

By the end of this module, student should be able to

- use their factual and methodological knowledge to reflect on interdisciplinary questions by comparing approaches from various disciplines;
- distinguish and qualify important approaches to forecasting and prediction;
- summarize the history of utopias, dystopias, and the ideas presented in classical science fiction;
- characterize current developments in technology, ecology, society, and their implications for the future.

Indicative Literature

United Nations (2015, September) Millennium Development Goals. Retrieved from <http://www.un.org/millenniumgoals>.

United Nation (2016, January): Sustainable Development Goals. Retrieved from <http://catalog.jacobs-university.de/search~S0>

United Nations University. <https://unu.edu>

US National Intelligence Council (2017). Global Trends. Retrieved from <https://www.dni.gov/index.php/global-trends-home>.

International Panel on Climate Change. Retrieved from <https://www.ipcc.ch>.

World Inequality Lab (2017, December). World Inequality Report 2018. Retrieved from <https://wir2018.wid.world>.

World Health Organization. Retrieved from <http://www.who.int>.

World Trade Organization. Retrieved from <https://www.wto.org>

Gapminder. Retrieved from <https://www.gapminder.org>.

World Bank. Retrieved from <http://www.worldbank.org>.

Usability and Relationship to other Modules

- This module is a mandatory elective module in the Big Questions area, which is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules).

- Students are encouraged to relate the content of their previous modules to the topics of this module and contribute their knowledge and competencies to class discussions and activities.

Examination Type: Module Examination

Assessment Type: Written examination

Duration: 60 min

Weight: 100%

Scope: All intended learning outcomes of the module

1.19.2.6 Climate Change

Module Name		Module Code	Level (type)	CP
Climate Change		JTBQ-BQ-007	Year 3 (Jacobs Track)	2.5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>		<i>CP</i>
JTBQ-007	Climate Change	Lecture		2.5
Module Coordinator	Program Affiliation		Mandatory Status	
L. Thomsen/ V. Unnithan	<ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs, except IEM 		<ul style="list-style-type: none"> Mandatory elective for students of all undergraduate study programs, except IEM 	
Entry Requirements			Frequency	Forms of Learning and Teaching
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually (Spring)	<ul style="list-style-type: none"> Lecture (17.5 hours) Private study (45 hours)
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> The ability and openness to engage in interdisciplinary issues of global relevance Media literacy, critical thinking, and a proficient handling of data sources 		
			Duration	Workload
			1 semester	62.5 hours
Recommendations for Preparation				
Critically following media coverage of the module's topics in question.				

Content and Educational Aims

All “Big Questions” (BQ) modules deal with the economic, technological, societal, and environmental contexts of the global issues and challenges of the coming decades. BQ modules intend to raise awareness of those challenges and broaden students’ horizon with applied problem solving beyond the borders of their own disciplines. Knowledge and skills offered in the interdisciplinary BQ modules support students in their development to become informed and responsible citizens in a global society.

This module will give a brief introduction into the development of the atmosphere throughout Earth's history from the beginning of the geological record up to modern times, and will focus on geological, cosmogenic, and anthropogenic changes. Several major events in the evolution of the Earth that had a major impact on climate will be discussed, such as the evolution of an oxic atmosphere and ocean, the onset of early life, snowball Earth, and modern glaciation cycles. In the second part, the module will focus on the human impact on present climate change and global warming. Causes and consequences, including case studies and methods for studying climate change, will be presented and possibilities for climate mitigation (geo-engineering) and adapting our society to climate change (such as coastal protection and adaption of agricultural practices to more arid and hot conditions) will be discussed.

Intended Learning Outcomes

Students acquire transferable and key skills in this module.

By the end of this module, students should be able to

- use their disciplinary factual and methodological knowledge to reflect on interdisciplinary questions by comparing approaches from various disciplines;
- advance a knowledge-based opinion on the complex module topics, including: impact of climate change on the natural environment over geological timescales and since the industrial revolution, and the policy framework in which environmental decisions are made internationally;
- work effectively in a team environment and undertake data interpretation;
- discuss approaches to minimize habitat destruction.

Indicative Literature

The course is based on a self-contained, detailed set of online lecture notes.

Ruddiman, William F. *Earth's Climate* (2001). Past and future. New York: Macmillan.

Usability and Relationship to other Modules

- This module is a mandatory elective module in the Big Questions area, which is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules).
- Students are encouraged to relate the content of their previous modules to the topics of this module and contribute their knowledge and competencies to class discussions and activities.

Examination Type: Module Examination

Assessment Type: Written examination
Scope: All intended learning outcomes of the module

Duration: 60 min.
Weight: 100%

1.19.2.7 Extreme Natural Hazards, Disaster Risks, and Societal Impact

Module Name		Module Code	Level (type)	CP
Extreme Natural Hazards, Disaster Risks, and Societal Impact		JTBQ-BQ-008	Year 3 (Jacobs Track)	2.5
Module Components				
Number	Name	Type		CP
JTBQ-008	Extreme Natural Hazards: Disaster Risks, and Societal Impact	Lecture		2.5
Module Coordinator	Program Affiliation		Mandatory Status	
L. Thomsen	<ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs, except IEM 		<ul style="list-style-type: none"> Mandatory elective for students of all undergraduate study programs, except IEM 	
Entry Requirements			Frequency	Forms of Learning and Teaching
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually (Fall)	<ul style="list-style-type: none"> Lecture (17.5 hours) Private study (45 hours)
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> The ability and openness to engage in interdisciplinary issues of global relevance Media literacy, critical thinking, and a proficient handling of data sources 		
			Duration	Workload
			1 semester	62.5 hours
Recommendations for Preparation				
Critically following media coverage of the module's topics in question.				
Content and Educational Aims				
<p>All "Big Questions" (BQ) modules deal with the economic, technological, societal, and environmental contexts of the global issues and challenges of the coming decades. BQ modules intend to raise awareness of those challenges and broaden students' horizons with applied problem solving beyond the borders of their own disciplines. Knowledge and skills offered in the interdisciplinary BQ modules support students in their development to become informed and responsible citizens in a global society.</p> <p>Extreme natural events increasingly dominate global headlines, and understanding their causes, risks, and impacts, as well as the costs of their mitigation, is essential to managing hazard risk and saving lives. This module presents a unique, interdisciplinary approach to disaster risk research, combining natural science and social science methodologies. It presents the risks of global hazards and natural disasters such as volcanoes, earthquakes, landslides, hurricanes, precipitation floods, and space weather, and provides real-world hazard and disaster case studies from Latin America, the Caribbean, Africa, the Middle East, Asia, and the Pacific.</p>				

Intended Learning Outcomes

Students acquire transferable and key skills in this module.

By the end of this module, student should be able to

- use their disciplinary factual and methodological knowledge to reflect on interdisciplinary questions by comparing approaches from various disciplines;
- advance a knowledge-based opinion on the complex module topics, including how natural processes affect and interact with our civilization, especially those that create hazards and disasters;
- distinguish the methods scientists use to predict and assess the risk of natural disasters;
- discuss the social implications and policy framework in which decisions are made to manage natural disasters;
- work effectively in a team environment.

Indicative Literature

The course is based on a self-contained, detailed set of online lecture notes.

Ismail-Zadeh, Alik, et al., eds (2014). Extreme natural hazards, disaster risks and societal implications. In *Special Publications of the International Union of Geodesy and Geophysics Vol. 1*. Cambridge: Cambridge University Press.

Usability and Relationship to other Modules

- The module is a mandatory elective module of the Big Questions area, that is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules)
- Students are encouraged to relate the content of their previous modules to the topics of this module and contribute such knowledge and competences to class discussions and activities.

Examination Type: Module Examination

Assessment Type: Written examination
Scope: All intended learning outcomes of the module

Duration: 60 min.
Weight: 100%

1.19.2.8 International Development Policy

Module Name		Module Code	Level (type)	CP
International Development Policy		JTBQ-BQ-009	Year 3 (Jacobs Track)	2.5
Module Components				
Number	Name	Type		CP
JTBQ-009	International Development Policy	Lecture		2.5
Module Coordinator	Program Affiliation		Mandatory Status	
C. Knoop	<ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs, except IEM 		<ul style="list-style-type: none"> Mandatory elective for students of all undergraduate study programs, except IEM 	
Entry Requirements			Frequency	Forms of Learning and Teaching
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually (Fall)	<ul style="list-style-type: none"> Lecture (17.5 hours) Presentations Private study (45 hours)
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> The ability and openness to engage in interdisciplinary issues of global relevance Media literacy, critical thinking, and a proficient handling of data sources 		
			Duration	Workload
			1 semester	62.5 hours
Recommendations for Preparation				
Critically following media coverage of the module's topics in question.				

Content and Educational Aims

All “Big Questions” (BQ) modules deal with the economic, technological, societal, and environmental contexts of the global issues and challenges of the coming decades. BQ modules intend to raise awareness of those challenges and broaden students’ horizon with applied problem solving beyond the borders of their own disciplines. Knowledge and skills offered in the interdisciplinary BQ modules support students in their development to become informed and responsible citizens in a global society.

We live in a world where still a large number of people still live in absolute poverty without access to basic needs and services, such as food, sanitation, health care, security, and proper education. This module provides an introduction to the basic elements of international development policy, with a focus on the relevant EU policies in this field and on the Sustainable Development Goals/SDGs of the United Nations. The students will not only learn about the tools applied in modern development policies, but also about the critical aspects of monitoring and evaluating the results of development policy. Module-related oral presentations and debates will enhance the students’ learning experience.

Intended Learning Outcomes

Students acquire transferable and key skills in this module.

By the end of this module, the student should be able to

- use their disciplinary factual and methodological knowledge to reflect on interdisciplinary questions by comparing approaches from various disciplines;
- breakdown the complexity of modern development policy;
- identify, explain, and evaluate the tools applied in development policy;
- formulate well-justified criticism of development policy;
- summarize and present a module-related topic in an appropriate verbal and visual form.

Indicative Literature

Francis Fukuyama (2006). The end of history and the last man. New York: Free Press.

Kingsbury, McKay, Hunt (2008). International Development. Issues and challenges. London: Palgrave.

A.Sumner, M.Tiwari (2009) After 2015: International Development Policy at a crossroad. New York: Palgrave Macmillan.

Graduate Institute of International Development, G. Carbonnier eds. (2001). International Development Policy: Energy and Development. New York:Palgrave Macmillan.

John Donald McNeil. International Development: Challenges and Controversy. Sentia Publishing,e-book.

Usability and Relationship to other Modules

- This module is a mandatory elective module in the Big Questions area, which is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules).
- Students are encouraged to relate the content of their previous modules to the topics of this module and contribute their knowledge and competencies to class discussions and activities.

Examination Type: Module Examination

Assessment Type: Presentation

Scope: All intended learning outcomes of the module

Duration: 10 minutes per student

Weight: 100%

1.19.2.9 Sustainable Value Creation with Biotechnology. From Science to Business

Module Name		Module Code	Level (type)	CP
Sustainable Value Creation with Biotechnology. From Science to Business.		JTBQ-BQ-011	Year 3 (Jacobs Track)	2.5
Module Components				
Number	Name	Type		CP
JTBQ-011	Sustainable Value Creation with Biotechnology. From Science to Business	Lecture Tutorial		- 2.5
Module Coordinator	Program Affiliation	Mandatory Status		
Marcelo Fernandez Lahore	<ul style="list-style-type: none"> Jacobs Track - Big Questions 	<ul style="list-style-type: none"> Mandatory elective for students of all undergraduate study except IEM 		
Entry Requirements		Frequency	Forms of Learning and Teaching	
Pre-requisites	Co-requisites	Annually (Spring)	<ul style="list-style-type: none"> Lecture and Tutorial (17.5 hours) Private study (45 hours) 	
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None			
Knowledge, Abilities, or Skills		Duration	Workload	
<ul style="list-style-type: none"> The ability and openness to engage in interdisciplinary issues on bio-based value creation media literacy, critical thinking and a proficient handling of data sources 		1 semester	62.5 hours	
Recommendations for Preparation				
https://www.ctsi.ucla.edu/researcher-resources/files/view/docs/EGBS4_Kolchinsky.pdf https://link.springer.com/article/10.1057/jcb.2008.27 https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf				

Content and Educational Aims

All “Big Questions” (BQ) modules deal with the economic, technological, societal and environmental contexts of the global issues and challenges of the coming decades. The BQ modules intend to raise awareness of those challenges and broaden the students’ horizon with applied problem solving beyond the borders of their own disciplines. Knowledge and skills offered in the interdisciplinary BQ modules support students in their development to become an informed and responsible citizen in a global society.

This module has a particular focus on the role that Biotechnology and Biorefining is expected to play in social, economic and environmental contexts.

To deliver such a vision the module will prepare students to extract value form Biotechnology and associated activities. This will be done in the form of business cases that will be systematically developed by students alongside the development of the module. In this way, students will develop entrepreneurial skills while understanding basic business-related activities that are not always present in a technical curriculum. Case development will also provide students with the possibility of understanding the social, economic, environmental impact that Biotechnology and Biorefining can deliver in a Bio-Based Economy. The knowledge and skills gained through this module are in direct and indirect support of the UN 2030 Agenda for Sustainable Development: “Transforming our World”.

Intended Learning Outcomes

Students acquire transferable and key skills in this module.

By the end of this module, the students should be able to

- design and develop a Business Case based on the tools provided by modern Biotechnology;
- explain the interplay between Science, Technology and Economics / Finance;
- use their disciplinary factual and methodological knowledge to reflect on interdisciplinary questions by comparing approaches from various disciplines;
- work effectively in a team environment and undertake data interpretation and analysis;
- discuss approaches to value creation in the context of Biotechnology and Sustainable Development;
- explain the ethical implications of technological advance and implementation;
- demonstrate presentation skills.

Indicative Literature

Springham, D., V. Moses & R.E. Cape (1999). *Biotechnology – The Science and the Business*. 2nd. Ed. Boca Raton: CRC Press.

Kornberg, Arthur (2002). *The Golden Helix: Inside Biotech Ventures*. Sausalito, CA: University Science Books.

UNESCO, Director-General. (2017). *UNESCO moving forward the 2030 Agenda for Sustainable Development*. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000247785>

Usability and Relationship to other Modules

- The module is a mandatory elective module in the Big Questions area, which is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules).
- Students are encouraged to relate the content of their previous modules to the topics of this module and contribute their knowledge and competencies to class discussions and activities.

Examination Type: Module Examination

Assessment Component 1: Term Paper

Length: 1.500 – 3.000 words
Weight: 75%

Scope: Intended learning outcomes of the module (1-6)

Assessment Component 2: Presentation

Duration: 10-15 min.

Weight: 25%

Scope: Intended learning outcomes of the module (2-7)

1.19.2.10 Gender and Multiculturalism. Debates and Trends in Contemporary Societies

Module Name		Module Code	Level (type)	CP
Gender and Multiculturalism. Debates and Trends in Contemporary Societies		JTBQ-BQ-013	Year 3 (Jacobs Track)	5.0
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>	
JTBQ-013	Gender and Multiculturalism: Debates and Trends in Contemporary Societies	Lecture	5.0	
Module Coordinator	Program Affiliation	Mandatory Status		
J. Price	<ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs 	Mandatory elective for students of all undergraduate study programs, except IEM		
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	Annually (Fall)	<ul style="list-style-type: none"> Lectures (17.5 hours) Project work (90 hours) Private study (17.5 hours) 	
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None			
<i>Knowledge, Abilities, or Skills</i>		Duration	Workload	
<ul style="list-style-type: none"> The ability and openness to engage in interdisciplinary issues of global relevance Media literacy, critical thinking and a proficient handling of data sources 		1 semester	125 hours	
Recommendations for Preparation				
Critical following of the media coverage on the module's topics in question.				
Content and Educational Aims				
<p>All "Big Questions" (BQ) modules deal with the economic, technological, societal and environmental contexts of the global issues and challenges of the coming decades. The BQ modules intend to raise awareness of those challenges and broaden the students' horizon with applied problem solving beyond the borders of their own disciplines. Knowledge and skills offered in the interdisciplinary BQ modules are relevant for every university graduate in order to become an informed and responsible citizen in a global society.</p> <p>The objective of this module is to introduce and familiarize students with the current debates, trends and analytical frameworks pertaining how gender is socially constructed in different cultural zones. Through lectures,</p>				

group discussions and reflecting upon cultural cases, students will familiarize themselves with the current trends and the different sides of ongoing cultural and political debates that shape cultural practices, policies and discourses. The module will zoom-in on topics such as: cultural identity; the social construction of gender; gender fluidity and its backlash; gender and human rights; multiculturalism as a perceived threat in plural societies, among others. Students will be provided with opportunities for reflection and to ultimately develop informed opinions concerning topics that are continue to define some of the most contested cultural debates of contemporary societies. Furthermore, participants will engage their ideas in “hands on” projects aimed at moving the needle from mere reflection by conducting “action-research” that will inform the outcomes of their course projects.

Intended Learning Outcomes

Students acquire transferable and key skills in this module.

By the end of this module, students will be able to

- use their disciplinary factual and methodological knowledge to reflect on interdisciplinary questions by comparing approaches from various disciplines;
- summarize and evaluate the current cultural, political and legal debates concerning the social construction of gender in contemporary societies;
- reflect and develop informed opinions concerning the current debates and trends that are shaping ideas of whether multiculturalism ideals are realistic in pluralist western societies, or whether multiculturalism is a failed project;
- identify, explain and evaluate the role that societal forces, such as religion, socio-economic, political and migratory factors play in the construction of gendered structures in contemporary societies;
- develop a well-informed perspective concerning the interplay of science and culture in the debates around gender fluidity;
- deconstruct and reflect on the intersectionality between populist/nationalist discourses and gender discrimination;
- reflect and propose societal strategies and initiatives that attempt to answer the big questions presented in this module regarding gendered and cross-culturally-based inequalities;
- complete a self-designed project, collect and distill information from an “action-research” perspective; summarizing the process in a suitable reporting format;
- consider the application of an algorithm for group formation (not mandatory);
- overcome general teamwork problems in order to perform well-organized project work.

Indicative Literature

Biological Limits of Gender Construction Author(s): J. Richard Udry

Source: American Sociological Review , Jun., 2000, Vol. 65, No. 3 (Jun., 2000), pp. 443- 457. Published by: American Sociological Association Stable URL: <https://www.jstor.org/stable/2657466>

The Development of Gendered Interests and Personality Qualities From Middle Childhood Through Adolescence: A Biosocial Analysis. Susan M. McHale, Aryn M. Dotterer, Ji-Yeon Kim, Ann C. Crouter and Alan Booth. Child Development, March/April 2009, Volume 80, Number 2, Pages 482–495

Factors influencing attitudes to violence against women. Michael Flood and Bob Pease. Trauma, Violence, & Abuse, Vol. 10, No. 2, April 2009 125-142 dOi: 10.1177/1524838009334131. 2009 sAge Publications

Gender and Anti-immigrant Attitudes in Europe. Aaron Ponce (2017) Socius: Sociological Research for a Dynamic World. Volume 3: 1–17. Reprints and permissions: sagepub.com/journalsPermissions.nav

Usability and Relationship to other Modules

- The module is a mandatory elective module of the Big Questions area, that is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules)
- Students are encouraged to relate the content of their previous modules to the topics of this module and contribute such knowledge and competences to class discussions and activities.

Examination Type: Module Examination

Assessment Type: Team Project

Weight: 100%

Scope: All intended learning outcomes of the module

1.19.2.11 The Challenge of Sustainable Energy

Module Name		Module Code	Level (type)	CP
The Challenge of Sustainable Energy		JTBQ-BQ-014	Year 3 (Jacobs Track)	2.5
Module Components				
Number		Type		CP
JTBQ-014	The Challenge of Sustainable Energy		Lecture	2.5
Module Coordinator	Program Affiliation		Mandatory Status	
K. Smith Stegen	<ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs 		Mandatory elective for students of all undergraduate study programs, except IEM	
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	Annually (Spring)	<ul style="list-style-type: none"> Lectures and Group Exercises 	
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None			
		Duration	Workload	
		1 semester	62.5 hours	
Recommendations for Preparation				
Reflect on their own behavior and habits with regard to sustainability.				
Content and Educational Aims				
<p>All “Big Questions” (BQ) modules deal with the economic, technological, societal and environmental contexts of the global issues and challenges of the coming decades. The BQ modules intend to raise awareness of those challenges and broaden the students’ horizon with applied problem solving beyond the borders of their own disciplines. Knowledge and skills offered in the interdisciplinary BQ modules are relevant for every university graduate in order to become an informed and responsible citizen in a global society.</p> <p>How can wide-scale social, economic and political change be achieved? This module examines this question in the context of encouraging “sustainability”. To address global warming and environmental degradation, humans must adopt more sustainable lifestyles. Arguably, the most important change is the transition from conventional fuels to renewable sources of energy, particularly at the local, country and regional levels. The main challenge to achieving an “energy transition” stems from human behavior and not from a lack of technology or scientific expertise. This module thus examines energy transitions from the perspective of the social sciences, including political science, sociology, psychology, economics and management. To understand the drivers of and obstacles to technology transitions, students will learn the “Multi-Level Perspective”. Some of the key questions explored</p>				

in this module include: What is meant by sustainability? Are renewable energies “sustainable”? How can a transition to renewable energies be encouraged? What are the main social, economic, and political challenges? How can these (potentially) be overcome? The aim of the course is to provide students with the tools for reflecting on energy transitions from multiple perspectives.

Intended Learning Outcomes

Students acquire transferable and key skills in this module.

By the end of this module, students will be able to

- articulate the history of the sustainability movement and the major debates;
- identify different types of renewable energies;
- explain the multi-level perspective (MLP), which models technology innovations and transitions;
- summarize the obstacles to energy transitions;
- compare a variety of policy mechanisms for encouraging renewable energies.

SEP

Usability and Relationship to other Modules

- The module is a mandatory elective module of the Big Questions area that is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules).
- For students interested in sustainability issues, this module complements a variety of modules from different programs, such as “International Resource Politics” (IRPH/SMP), “Environmental Science” (EES), “General Earth and Environmental Sciences” (EES), and “Renewable Energies” (Physics).

Examination Type: Module Examination

Assessment Type: Written Examination

Duration: 60 min

Weight: 100%

Scope: All intended learning outcomes of the module

1.19.2.12 State, Religion and Secularism

Module Name		Module Code	Level (type)	CP
State, Religion and Secularism		JTBQ-BQ-015	Year 3 (Jacobs Track)	2.5
Module Components				
Number		Type		CP
JTBQ-015	State, religion and secularism		Lecture	2.5
Module Coordinator	Program Affiliation		Mandatory Status	
Manfred O. Hinz	<ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs 		Mandatory elective for students of all undergraduate study programs, except IEM	
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	Annually (Spring)	<ul style="list-style-type: none"> Lectures and Group Exercises 	
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None			
<i>Knowledge, Abilities, or Skills</i>		Duration	Workload	
<ul style="list-style-type: none"> Ability to read texts from a variety of disciplines 		1 semester	62.5 Hours	
Recommendations for Preparation				
Reflect on the situation and role in respective home-country				
Content and Educational Aims				
<p>The relationship between state and religion has been a matter of concern in most if not all societies. Is religion above the state, or is it to the state to determine the place of religion? What does secularity mean? To what extent will religion accept secularity? Where does the idea of secularity come from? The course State, religion, secularism will search for answers to questions of this nature. After introducing to the topic and looking at some legal attempts to regulate the relationship between state and religion, the focus will be, on the one hand, on Christianity and secularity and, on Islam and secularity, on the other. Depending on the interest of participants, other religions and their relationships to states of relevance can be added.</p>				

Intended Learning Outcomes

By the end of this course, students should be able

- To understand the basic problems that have led to different models to regulate the relationship between the state and religion;
- To reflect critically the situation of state and religion in selected countries;
- To assess the values behind the concept of democracy and human rights;
- To use the acquired knowledge to strengthen the capacity towards respect for others and tolerance.

Usability and Relationship to other Modules

- The module is a mandatory elective module of the Big Questions area that is part of the Jacobs Track (Methods and Skills modules; Community Impact Project module; Language modules; Big Questions modules).
- For students interested in State, Religion and secularism, this module complements modules from other programmes, such as IRPH and SMP

Examination Type: Module Examination

Assessment Type: Term paper

Length: 1.500 – 3.000 words

Weight: 100%

Scope: All intended learning outcomes of the module.

1.19.3 Community Impact Project

Module Name		Module Code	Level (type)	CP
Community Impact Project		JTCI-CI-950	Year 3 (Jacobs Track)	5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>	
JTCI-950	Community Impact Project	Project	5	
Module Coordinator	Program Affiliation		Mandatory Status	
CIP Faculty Coordinator	<ul style="list-style-type: none"> All undergraduate study programs except IEM 		Mandatory for all undergraduate study programs except IEM	
Entry Requirements			Frequency	Forms of Learning and Teaching
<i>Pre-requisites</i>	<i>Co-requisites</i>	<i>Knowledge, Abilities, or Skills</i>	Annually (Fall)	<ul style="list-style-type: none"> Introductory, accompanying, and final events: 10 hours Self-organized teamwork and/or practical work in the community: 115 hours
<input checked="" type="checkbox"/> at least 15 CP from CORE modules in the major	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Basic knowledge of the main concepts and methodological instruments of the respective disciplines 		
			1 semester	125 hours
Recommendations for Preparation				
Develop or join a community impact project before the 5 th semester based on the introductory events during the 4 th semester by using the database of projects, communicating with fellow students and faculty, and finding potential companies, organizations, or communities to target.				
Content and Educational Aims				
<p>CIPs are self-organized, major-related, and problem-centered applications of students' acquired knowledge and skills. These activities will ideally be connected to their majors so that they will challenge the students' sense of practical relevance and social responsibility within the field of their studies. Projects will tackle real issues in their direct and/or broader social environment. These projects ideally connect the campus community to other communities, companies, or organizations in a mutually beneficial way.</p> <p>Students are encouraged to create their own projects and find partners (e.g., companies, schools, NGOs), but will get help from the CIP faculty coordinator team and faculty mentors to do so. They can join and collaborate in interdisciplinary groups that attack a given issue from different disciplinary perspectives.</p> <p>Student activities are self-organized but can draw on the support and guidance of both faculty and the CIP faculty coordinator team.</p>				

Intended Learning Outcomes

The Community Impact Project is designed to convey the required personal and social competencies for enabling students to finish their studies at Jacobs as socially conscious and responsible graduates (part of the Jacobs mission) and to convey social and personal abilities to the students, including a practical awareness of the societal context and relevance of their academic discipline.

By the end of this project, students should be able to

- understand the real-life issues of communities, organizations, and industries and relate them to concepts in their own discipline;
- enhance problem-solving skills and develop critical faculty, create solutions to problems, and communicate these solutions appropriately to their audience;
- apply media and communication skills in diverse and non-peer social contexts;
- develop an awareness of the societal relevance of their own scientific actions and a sense of social responsibility for their social surroundings;
- reflect on their own behavior critically in relation to social expectations and consequences;
- work in a team and deal with diversity, develop cooperation and conflict skills, and strengthen their empathy and tolerance for ambiguity.

Indicative Literature

Not specified

Usability and Relationship to other Modules

- Students who have accomplished their CIP (6th semester) are encouraged to support their fellow students during the development phase of the next year's projects (4th semester).

Examination Type: Module Examination

Project, not numerically graded (pass/fail)
Scope: All intended learning outcomes of the module

1.19.4 Language Modules

The descriptions of the language modules are provided in a separate document, the “Language Module Handbook” that can be accessed from here: <https://www.jacobs-university.de/study/learning-languages>

2 Appendix

2.1 Intended Learning Outcomes-Assessment-Matrix

Global Economics and Management BA					Microeconomics	Macroeconomics	Introduction to International Business	Elective CHOICE	Introduction to Finance and Accounting	Development Economics	Environment and Resource Economics	Comparing Economic Systems	International Economics	Marketing	Organization and HR Management	Advanced Econometrics	Information Economics	Managing Public and Nonprofit Org.	Internship / Startup and CS	Bachelor Thesis and Seminar	JIT Methods and Skills	JIT Language Module	JIT Community Impact Project	JIT Big Questions								
Semester					1	2	1	1-2	2	3	4	3	4	3	4	5-6	5-6	5-6	4-5	6	1-4	1-4	5	5-6								
Mandatory/ optional					m	m	m	o	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m								
Credits					7.5	7.5	7.5	15	7.5	7.5	7.5	7.5	7.5	7.5	7.5	5	5	5	15	15	20	10	5	10								
Program Learning Outcomes					Competencies*																											
					A	E	P	S																								
Contrast the interests and activities of private business organizations, governments, international organizations, civil society associations and non-profit organizations					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x											
Evaluate economic, political and societal problems using economics and management theories and scientific reasoning					x		x	x			x	x	x	x			x	x	x			x										
Apply economic theories and analyses to issues of wide public and professional concern					x		x	x			x	x	x	x			x	x				x										
Apply organization and management theories to basic dimensions of the conduct of business					x				x						x	x			x													
Articulate the relationships between business decisions, economic policies, and national and international public affairs					x		x	x	x		x	x	x	x		x		x														
Identify the appropriate approach to deal with business and institutional actors depending on their interests					x	x		x		x					x	x			x													
Distinguish differences in national and regional perceptions of and approaches to economic reasoning					x	x		x				x	x	x	x			x														
Apply social and intercultural competencies needed to take on responsibility in diverse, international teams with competing and overlapping interests					x	x	x		x						x	x			x				x	x	x							
Outline and discuss their arguments and the ones of others using a combination of economic, organizational and institutional analyses					x	x	x	x					x	x	x	x		x	x					x								
Assess and interpret relevant information for policy analyses in selected topics of micro- and macroeconomics					x	x	x	x	x		x	x	x	x			x	x				x			x							
Describe the state of published knowledge in economics and management					x	x		x	x	x	x	x	x	x	x	x	x	x	x	x												
Explain real-life situations and problems of organizations and industries combining key contemporary theories of economics and management with methods and insights of other disciplines					x	x	x		x						x	x		x	x				x			x						
Communicate economic and managerial analysis and solutions appropriately to their audience					x	x	x	x		x					x	x	x	x	x		x			x								
Investigate problems and undertake scientific or applied research projects					x	x											x				x	x		x	x							
Draw scientifically-founded conclusions that consider social, professional, scientific and ethical insights					x	x	x	x		x	x	x	x				x	x	x		x	x		x	x							
Engage ethically with academic, professional and wider communities and to actively contribute to a sustainable future, reflecting and respecting different views					x	x	x	x		x	x	x			x	x			x		x	x	x	x	x							
reflect on interdisciplinary questions by comparing approaches from various disciplines										x								x		x		x		x	x							
take responsibility for their own learning, personal and professional development and role in society, evaluating critical feedback and using self-analysis										x										x				x	x							
Assessment Type																																
Oral examination																																
Written exam					x	x	x		x		x		x																			
Project																					x			x								
Term paper											x		x		x		x	x		x												
Lab report																																
Poster presentation																																
Presentation																																
Various									x												x	x		x								
Module achievements or bonus points																										x						

*Competencies: A-scientific/academic proficiency; E-competence for qualified employment; P-development of personality; S-competence for engagement in society