



JACOBS
UNIVERSITY



Study Program Handbook

International Business Administration

Bachelor of Arts

Subject-specific Examination Regulations for International Business Administration (Fachspezifische Prüfungsordnung)

The subject-specific examination regulations for International Business Administration 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 (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 International Business Administration Program's mission is to prepare students for their professional occupations in internationally active organizations ranging from small, innovative start-ups to large multinational enterprises. Business are active agents of change, using cross-border transactions, such as trade and investments, to shape the future of our globalized world. To succeed in this environment, managers need to understand the nature of international business activities in order to handle the challenges of international companies. The International Business Administration program, is designed for young scholars from all over the

world who share an interest in business activities, management, or entrepreneurship in an international context.

The program covers all essential areas of international business and management, combining theoretical knowledge, practical application, and scientific methods. Half of the modules in the first year focus on the foundations of international business administration, such as management concepts and theories of internationalization of firms, as well as the principles of finance and accounting. The other half of the first year modules introduce micro- and macro-economic theories. The combination of business administration and economics in their first study year allows students to understand the interactions between the activities of individual firms and their economic environment. In the second year, the modules in the International Business Administration Program are designed to allow students to develop their own academic profile. The core topics of international business administration are conveyed through combinations of different perspectives, such as digitalization and global e-commerce, entrepreneurship and innovation, strategic management, project management, marketing, and organizational and human resource management. The combination of at least four of these perspectives shapes the individual student's profile while simultaneously ensuring a multifaceted understanding of international business administration. The final year of the International Business Administration Program allows students to sharpen their profiles by letting them choose three specialization modules each of which places more emphasis on the perspectives offered in the second year of studies.

To expose students to international business administration theories, to their application and to the latest scientific methods in this field, the program applies a combination of lectures, seminars, and case studies and fosters an informed, comparative, and critical understanding of common business practices, problems, and values in an international, diverse context.

The international and diverse student body at Jacobs University helps students to experience, understand and manage the complex and changing environmental forces that impact international business, and to learn how managers and companies can effectively adapt to these forces.

1.2 Specific Advantages of the International Business Administration Program at Jacobs University

Right from the start, the International Business Administration Program (IBA) exposes students to the challenges of international business. Challenging case studies of real companies require students to develop creative solutions in intercultural teams. Working in small teams to tackle these challenges is an integral part of the study program. With its diverse and international student body, Jacobs University provides an ideal environment in which to study International Business Administration. Already in the classroom students are exposed to transnational and culturally diverse teams and topics from a variety of industries. This intense exposure to real challenges of international companies combined with highly international and diverse student teams is a unique advantage of the International Business Administration Program at Jacobs University. Graduates will be prepared to take on managerial responsibilities in international companies as well as to join and undertake internationally prestigious master's programs in International Business or Management.

Jacobs University students can choose to specialize in International Business Administration or to combine their IBA studies with a minor from another discipline at Jacobs University, such as Industrial Engineering and Management, International Relations and Political History,

Integrated Social Sciences, Integrated Social and Cognitive Psychology, Earth and Environmental Sciences, or Computer Science. Each of these minor combinations allows students to develop a specific and unique profile. Combining International Business Administration with Global Economics and Management, for example, extends the firm level perspective of International Business Administration by including the wider consequences of economic and political activities at the level of national and global economic systems. A minor in Industrial Engineering and Management or Psychology emphasizes the knowledge of sourcing and production processes and the behavior of employees and consumers.

1.3 Program-specific Educational Aims

1.3.1 Qualification Aims

The IBA study program awards a Bachelor of Arts degree. This program examines the key questions of international companies and seeks to explain how these companies operate and coordinate their activities in a globalized world. The scientific education provided by the program focuses on qualitative and quantitative techniques and coursework.

1.3.2 Intended Learning Outcomes

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

- critically discuss and apply modern theories of business and economics;
- explain the organizational behavior of Multinational Enterprises (MNE), Small and Medium Sized Enterprises (SME) and other organizations in diverse cultural and economic environments;
- discuss how the political, economic, social, and technological environment affects business functions in a globalized world;
- apply principles of international strategy to evaluate and solve challenges of transnational business activities;
- apply the principles of marketing, organization and human resource management to evaluate and solve challenges of cross-cultural stakeholders inside and outside a company;
- Utilize the principles of finance and accounting to describe and evaluate the financial performance of companies;
- advance creative solutions for real international business situations using management knowledge and creative techniques such as design thinking;
- defend these solutions in discussions with specialists and non-specialists;
- utilize entrepreneurial thinking in a variety of situations such as the development of business models and startups;
- consider the social responsibility and ethical behavior of individuals, organizations and governments;
- use advanced statistical software and methods in research and business;
- work as effective members of a team and manage projects effectively;
- structure and communicate complex issues;
- communicate professionally with a consideration of the content and audience;
- engage ethically with academic, professional, and wider communities and actively contribute to a sustainable future, reflecting and respecting different views;

- take responsibility for their own learning, personal and professional development, and role in society, evaluating critical feedback and performing self-analysis;
- apply their knowledge and understanding to a professional context;
- take on responsibility in a diverse team;
- adhere to and defend ethical, scientific, and professional standards.

1.4 Career Options

With its clear focus on the management of firms in international business activities, students acquire solid labor-market qualifications for careers in a broad range of businesses, especially international and internationalizing firms. In the last years, our graduates have obtained internships and positions in a variety of leading companies, including Bosch, Deloitte, and KPMG.

The IBA program has taken our graduates onto a rich diversity of career paths. The academic rigor of the program prepares students for highly ranked graduate programs, such as IE Madrid or University of Amsterdam.

Due to their experience working and living with students from more than 100 countries on Jacobs University's international campus, IBA graduates are well prepared to take on responsibility in intercultural work environments. Moreover, the Jacobs Career Services Center offers students, 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 must 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 higher education entrance qualification Jacobs University accepts the common international university entrance tests in place 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:

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Telephone: +49 421 200-3492

or visit our program website: <http://int-business.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 undergraduate 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:

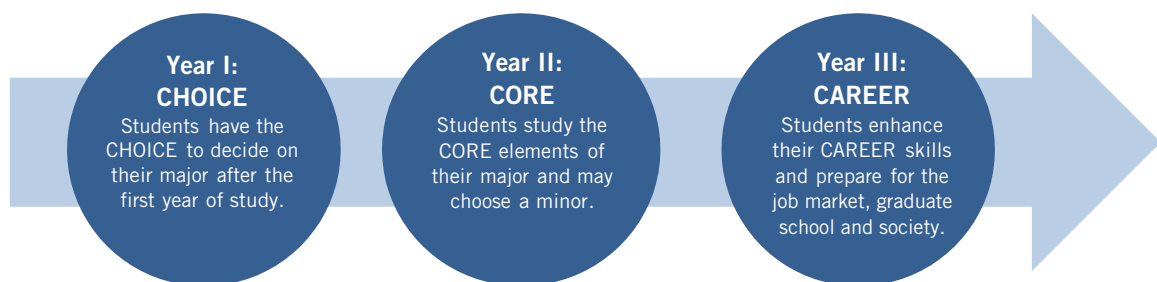


Figure 1: The Jacobs University 3C-Model

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 International Business Administration as a major, students take the following mandatory CHOICE modules (30 CP):

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

The combination of business administration and economics allows students to understand the interactions between the activities of individual firms and their economic environments.

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 their major choice becomes fixed (see 2.2.1.1 below).

2.2.1.1 Major Change Option

Students can still change to another major at their beginning of the second year of study, provided 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 during the first year of studies prior to changing their major.

The major change options and requirements for IBA students are listed below:

- All IBA students have the option to change to Global Economics and Management (GEM) 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. The module descriptions can be found in the respective Study Program Handbook.

- Integrated Social and Cognitive Psychology (ISCP)
CHOICE Module: Essentials of Cognitive Psychology (7.5 CP)
CHOICE Module: Essentials of Social Psychology (7.5 CP)
- Social, Media, and Society (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)
- 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)
- 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 practice.

To pursue International Business Administration as a major, at least 30 CP from the following mandatory elective CORE modules need to be taken:

- CORE Module: Applied Project Management (7.5 CP)
- CORE Module: International Strategic Management (7.5 CP)
- CORE Module: Digital Transformation and Information Economy (7.5 CP)
- CORE Module: Entrepreneurship and Innovation (7.5 CP)
- CORE Module: Marketing (7.5 CP)
- CORE Module: Organization and Human Resource Management (7.5 CP)

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

IBA 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 IBA students to:

- select two CHOICE modules (15 CP) from the desired minor program in the first year and
- substitute two of the mandatory elective IBA CORE modules (15 CP) 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 (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 IBA as a major cannot pursue Global Economics and Management (GEM) as a minor; students must declare whether they follow either IBA or GEM as a major at the beginning of the second year of study.

2.2.3 Year 3 – CAREER

During their third year, students prepare and make decisions for their career after graduation. To explore available choices, and to gain professional experience, students take a mandatory summer internship. The third year of studies allows IBA students to further sharpen their profile with a selection of different specialization modules that can be combined to enhance their specific understanding of innovation processes, managerial capabilities or market transactions, but also focuses on the responsibility of students beyond their discipline (see Jacobs Track).

The fifth semester also opens a mobility window for ample study abroad options. Finally, the sixth semester is dedicated to foster the research experience of students by involving them in an extended bachelor's 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 fifth and sixth semester. The default specialization module size is 5 CP, with smaller 2.5 CP modules being possible as justified exceptions.

To pursue International Business Administration as a major, at least 15 CP from the following mandatory elective Specialization Modules need to be taken:

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

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>).

IBA students that wish to pursuing 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 the 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 through 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 IBA as a major, the following Methods and Skills modules (15 CP) need to be taken as mandatory modules:

- Methods Module: Applied Calculus (5 CP)
- Methods Module: Applied Statistics with SPSS (5 CP)
- Methods Module: Applied Statistics with R (5 CP)

For the remaining 5 CP IBA students can choose between the following two Methods modules:

- Methods Module: Econometrics (5 CP)
- Methods Module: Data Collection and Empirical Research Methodologies (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 International Business Administration as a Minor

A minor in IBA will meet the expectations of prospective students with a strong interest in the management of firms in a globalized and international environment. IBA focuses on how firms and individuals make decisions regarding the strategic and operational management of cross-border activities such as investments, outsourcing or mergers and acquisitions.

3.1 Qualification Aims

The purpose of a minor in IBA is to enable graduates to complement their knowledge obtained in their major program with an international business perspective. The Principles of international business administration are highly relevant in a world characterized by globalization, rapid technological change, and scarce resources. The basics of international business administration, covered in the first year's CHOICE modules, convey a business-driven approach to problem solving. The two second year CORE modules International Strategic

Management and Applied Project Management develop these approaches further by expanding the perspective to strategic planning processes and efficient project management.

3.1.1 Intended Learning Outcomes

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

- critically discuss and apply modern theories in business and economics;
- explain the organizational behavior of Multinational Enterprises (MNE), Small and Medium Sized Enterprises (SME) and other organizations in various cultural and economic environments;
- discuss how the political, economic, social, and technological environments affect business functions in a globalized world;
- apply the principles of international strategy to evaluate and solve challenges of transnational business activities;
- Utilize the principles of finance and accounting to describe and evaluate the financial performance of companies;
- defend their solutions in discussions with specialists and non-specialists.

3.2 Module Requirements

A minor in IBA requires 30 CP. The default option to obtain a minor in IBA is marked in the Study and Examination Plans in Section 6. It includes the following CHOICE and CORE modules:

- CHOICE Module: Introduction to International Business (7.5 CP)
- CHOICE Module: Introduction to Finance and Accounting (7.5 CP)
- CORE Module: Applied Project Management (7.5 CP)
- CORE Module: International Strategic Management (7.5 CP)

3.3 Degree

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

4 International Business Administration Undergraduate Program Regulations

4.1 Scope of these Regulations

The regulations in this handbook are valid for all students who entered the International Business Administration undergraduate program at Jacobs University in Fall 2021. In case of conflict between the regulations in this handbook and the general Policies for Bachelor Studies, the latter apply (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 International Business Administration.

4.3 Graduation Requirements

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

Students need to complete all mandatory components of the program as indicated in the Study and Examination Plan in Chapter 6 of this handbook.

5 Schematic Study Plan for International Business Administration

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 International Business Administration (180 CP)					
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 (me, 3 x 5 CP)				
Internship/Startup (Summer) (15 CP)					
Year 2	CORE* International Strategic Management (me, 7.5 CP)	CORE Entrepreneurship & Innovation (me, 7.5 CP)	CORE Organization and Human Resource Management (me, 7.5 CP)	Methods/Skills Econometrics or Empirical Research Meth. (me, 5 CP)	Language (me, 2.5 CP)
	CORE* Applied Project Management (me, 7.5 CP)	CORE Digital Transformation & Information Economy (me, 7.5 CP)	CORE Marketing (me, 7.5 CP)	Methods/Skills Qual. Res. Methods (m, 5 CP)	Language (me, 2.5 CP)
Year 1	CHOICE* Introduction to Finance & Accounting (m, 7.5 CP)	CHOICE Macroeconomics (m, 7.5 CP)	CHOICE Own Selection (me, 7.5 CP)	Methods/Skills Appl. Statistics with SPSS or R (me, 5 CP)	Language (me, 2.5 CP)
	CHOICE* Introduction to International Business (m, 7.5 CP)	CHOICE Microeconomics (m, 7.5 CP)	CHOICE Own Selection (me, 7.5 CP)	Methods/Skills Applied Calculus (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 IBA

1 International Business Administration Modules

1.1 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) 	
☒ None	☒ None			
		Duration 1 semester	Workload 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

1.2 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	Forms of Learning and Teaching	
<i>Pre-requisites</i>	<i>Co-requisites</i>	Annually (Spring)	<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			
		1 semester	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.

1.3 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>	<i>Knowledge, Abilities, or Skills</i>		
	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Logical reasoning High school mathematics 		
		Duration	Workload	
		1 semester	187.5 hours	
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				
<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 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.</p> <p>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.</p>				

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%

1.4 Macroeconomics

Module Name		Module Code	Level (type)	CP
Macroeconomics		CH-311	Year 1 (CHOICE)	7.5
Module Components				
<i>Number</i>	<i>Name</i>		<i>Type</i>	<i>CP</i>
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>	<i>Knowledge, Abilities, or Skills</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	<ul style="list-style-type: none"> Logical reasoning High school mathematics 	Duration	Workload
			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

1.5 Applied Project Management

Module Name Applied Project Management		Module Code CO-600	Level (type) Year 2 (Choice)	CP 7.5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>	
CO-600-A	Applied Project Management	Lecture	5	
CO-600-B	Applied Project Management - Seminar	Seminar	2.5	
Module Coordinator Prof. Dr.-Ing. Steffen Christoph Eickemeyer	Program Affiliation • International Business Administration (IBA)		Mandatory Status Mandatory Elective for IBA, mandatory for 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 Study (135 hours) 	
<input checked="" type="checkbox"/> Introduction to International Business and Introduction to Finance and Accounting	<input checked="" type="checkbox"/> None			
		1 semester	187.5 hours	
Recommendations for Preparation				
Before the first session, students should read: Luecke, R. (2004) : Managing Projects Large and Small - The Fundamental Skills for Delivering on Budget and on Time, Harvard Business School Press.				
Course Description / Content / Aims				
<p>Well-run projects depend entirely on the foundation laid in the initial planning stages, the care and precision of project organization, and excellent teamwork. The module Applied Project Management (<i>APM</i>) offers a detailed look at the characteristics of projects and a hands-on team simulation of the project planning and management process.</p> <p>The <i>APM</i> module explains various project phases, including major and detailed tasks. It will deal with task assignment and resource allocation, budgeting, tracking, and scheduling techniques as well as with project leadership and team processes. The course will give students hands-on experience with project management, as students have to run a project on their own in teams over the semester.</p> <p>The lecture component of this module covers the theoretical basics and offers practical examples. The seminar component of this module serves as an exercise based on examples and case studies, which are also carried out over the course hours in homework.</p>				
Intended Learning Outcomes				
By the end of this module, students should be able to				
<ul style="list-style-type: none"> • identify and memorize the key skills to manage projects, including internationally accepted standards and procedures for running and controlling projects; • apply project management skills to set up, organize, manage and control (real) projects; • analyze project performance; • develop strong analytical and presentation skills. 				

Indicative Literature

Bittner, E., Gregorc, W. (ed.) (2010). Experiencing Project Management: Projects, Challenges and Lessons Learned. Hoboken: John Wiley & Sons.

Larson, E. W., Gray, C. F. (2015). A guide to the project management body of knowledge: PMBOK (®) guide. In: Project Management Institute.

Luecke, R (2004). Managing projects large and small: the fundamental skills for delivering on budget and on time. Harvard: Harvard Business Press.

Marks, T. (2012). 20:20 Project Management: How to deliver on time, on budget and on spec. London: Kogan Page Publishers.

Larson, E.W.; Gray, C. (2017). Project management: the managerial process, 7th edition. New York: McGraw-Hill Education.

Moriis, P.W.G., Pinto, J. K, Söderland, Jonas (Hg.) (2012). The Oxford handbook of project management. Oxford: Oxford University Press.

Pries, K. H.; Quigley, J.M (2010). Scrum project management. Boca Raton: CRC press.

Usability and Relationship to other Modules

- Mandatory elective module for a major in IBA
- Mandatory for a minor in IBA
- Mandatory for a major in IEM

Examination Type: Module Examination

Assessment Type: Presentation

Duration: 45 minutes

Weight: 100%

Scope: All intended learning outcomes

1.6 International Strategic Management

Module Name International Strategic Management		Module Code CO-601	Level (type) Year 2 (CORE)	CP 7.5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>	
CO-601-A	International Strategic Management	Lecture	5	
CO-601-B	International Strategic Management - Seminar	Seminar	2.5	
Module Coordinator Prof. Dr. Tilo Halaszovich		Program Affiliation <ul style="list-style-type: none"> International Business Administration (IBA) 		Mandatory Status Mandatory elective for IBA Mandatory for 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 (35 hours) Seminar (17.5 hours) Private Studies (135 hours)
<input checked="" type="checkbox"/> Introduction to International Business and Introduction to Finance and Accounting	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Academic writing skills Good understanding of the principles of international management 	Duration 1 semester	Workload 187.5 hours
Recommendations for Preparation				
Students should have developed a sound understanding of the principles of international management. In this advanced module, these principles are not repeated but are used as a basis. It is strongly recommended for all students to refresh their knowledge of the CHOICE module Introduction to International Business.				
Content and Educational Aims				
This module will explore the nature of strategy, the forces of competition and strategic decision-making in a globalized world. The module covers the principles of both business-level and corporate-level strategies in international organizations. It is designed to introduce a wide variety of modern strategy frameworks and methodologies, including methods of assessing the attractiveness of foreign markets, and the strength of competition, for understanding relative bargaining power, for anticipating competitors' actions, and for analyzing cost and value structures in global supply chains.				
The lecture part of this module conveys the relevant concepts and theories of international strategic management in an interactive manner. In the seminar part, students will apply this knowledge to real world challenges in international strategic management.				
Intended Learning Outcomes				
By the end of this module, students should be able to				
<ul style="list-style-type: none"> identify and explain critical challenges in strategic management; develop a sound understanding of the mechanisms behind international strategic assessments and planning processes; evaluate and design strategies in international management, such as market selection or entry mode choices; acquire and develop t additional knowledge and skills needed to support strategic decision making in international firms; utilize analytical skills and apply relevant tools as required in the discipline. 				

Indicative Literature

Verbeke, A. (2013). International Business Strategy – 2nd edition. Cambridge: Cambridge: University Press.

Morschett, D., Schramm-Klein, H. & Zentes, J. (2015). Strategic International Management – 3rd edition. Wiesbaden: Springer Gabler.

Usability and Relationship to other Modules

- Mandatory elective for a major in IBA
- Mandatory for a minor in IBA
- Mandatory for a major in IEM
- This module prepares students for the Bachelor Thesis focusing on topics in international management

Examination Type: Module Examination

Type: Term Paper

Length: 4.000 words

Weight: 100%

Scope: All intended learning outcomes of the module

1.7 Digital Transformation and Information Economy

Module Name Digital Transformation and Information Economy		Module Code CO-602	Level (type) Year 2 (CORE)	CP 7.5
Module Components				
<i>Number</i>	<i>Name</i>		<i>Type</i>	<i>CP</i>
CO-602-A	Digital Transformation and Information Economy		Seminar	5
CO-602-B	Design Thinking, E-Business & E-Services		Seminar	2.5
Module Coordinator Prof. Dr. Christoph Lattemann	Program Affiliation <ul style="list-style-type: none"> International Business Administration (IBA) 		Mandatory Status Mandatory Elective for 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"> Lectures, including case studies and presentations (35 hours) Project Work (Design Thinking) (17.5 hours) Private Study (135 hours)
<input checked="" type="checkbox"/> Introduction to International Business and Introduction to Finance and Accounting and Microeconomics and Macroeconomics	<input checked="" type="checkbox"/> None	Basic knowledge of management concepts and economics	Duration 1 semester	Workload 187.5 hours
Recommendations for Preparation				
This module is based on the knowledge students acquired in the CHOICE modules during the first study year.				
Content and Educational Aims				
<p>Information is a key resource in today's business operations and an important tool for decision-making. This module provides the basics for making informed and effective business decisions in today's information economy. The content of this module is located in the intersection of the Information Economy, Electronic Business, Electronic Commerce, and Electronic Services.</p> <p>The overall goal of this module is to help students to learn, understand and practice entrepreneurial and innovation processes in the information age. The "Digital Transformation and Information Economy" module helps students to understand today's real-life challenges and problems and to explain complex problems coherently and concisely. Further, students learn to develop and present innovative user-centered and theory-oriented solutions for real-world challenges in an IT-driven world.</p>				
Module Component: Information Economy and Digital Transformation				
<p>The module is strongly based on the paradigm of user-centeredness, the user centered design of services and the ideas of Service Dominant Logic. Service-dominant (S-D) logic is a meta-theoretical framework for explaining value creation, through exchange, among configurations of actors. One underlying idea of S-D logic is that goods are a distribution mechanism for co-created service provision.</p> <p>In the information age, these co-created services can be supported and enhanced through information technologies (applications and devices). Hence, new technologies enable humans to apply their competences to</p>				

benefit others and reciprocally benefit from others' applied competences through service-for-service exchange in a more advanced way.

Major challenges and concerns of the digital transformation and information economy will be reflected:

- the role of information in an information society
- globalization & strategic business
- information infrastructure
- new theories and concepts (such as service dominant logic, customer integration, gamification, P2P)
- new applications (e.g. Web 2.0 and Industry 4.0, Facebook, Twitter, Google, eBay, WeChat,...)
- new business models
- ethics and security.

The module will enable students to collaborate across disciplines with experts in other areas (in particular Design and Engineering) and to apply knowledge in areas of expertise other than their own (thus building so called t-shaped people).

Module Component: Design Thinking, E-Business & E-Services

The Design Thinking part of the module help students to improve their theoretical and practical skills in finding practical and innovative solutions for real-world challenges in a business environment.

The Design Thinking approach has rapidly been adopted by some of the world's leading brands, such as Apple, Google, Samsung, and GE and the approach is being taught at leading universities around the world, including Stanford and Harvard.

Design Thinking is a human-focused, prototype-driven process for innovation. In this course students will develop a solid understanding of the fundamental concepts of Design Thinking and will learn how to implement new found knowledge in their professional work life.

Intended Learning Outcomes

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

(for Module Component: Information Economy and Digital Transformation)

- describe the role of information in the internet economy and in the digital transformation;
- summarize and classify the new Web 2.0 and Industry 4.0 technologies;
- Indicate the economic and business rules in the information age;
- develop practical knowledge and management skills for digital transformation;
- develop broad global and strategic perspectives;
- develop sensitivity to international social responsibility and public interest issues from various perspectives;
- explain the “service dominant logic” (SDL) for business/entrepreneurial activities and the power of new technologies (e.g. IoT) for customer relationship management;
- improve their oral communication, group and individual presentation skills;
- work better as individuals, group members, and group leaders;
- outline how business ethics are also applicable in the field of Information Systems and Management;
- adapt to a new working culture based on a user-centricity, empathy, and playful testing.

(for Module Component Design Thinking, E-Business & E-Services)

- apply the fundamental concepts of Design Thinking by working through a complete innovation project
- understand why Design Thinking is relevant in an IT-driven world.
- apply ethnographic and analysis methods, which differ from classical market research, such as focus groups and surveys
- initiate a new working culture based on a user-centric approach, empathy, and playful testing
- apply early and fast prototyping as well as testing methods that will help reduce risks and accelerate organizational learning
- work in a team of diverse people and in a diverse environment

Indicative Literature

Brynjolfsson, E., McAfee, A. (2016). *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. New York: Norton & Company, ISBN-13: 978-0393350647, ISBN-10: 0393350649.

Laudon, K. C., Traver, C.G., (2011). *Management Information Systems – Managing the Digital Firm* (12th Edition). Upper Sadle River: Pearson; ISBN-10: 0-27-375453-X; ISBN-13: 978-0-27-375453-X.

Usability and Relationship to other Modules

- Mandatory elective for a major in IBA
- This module prepares students who are interested in the consequences of digitization and creative problem solving for their independent studies in the Bachelor Thesis module

Examination Type: Module Examination

Assessment Type: Group presentation

Duration: 40 minutes

Weight: 100%

Scope: All intended learning outcomes

1.8 Entrepreneurship and Innovation

Module Name Entrepreneurship and Innovation		Module Code CO-603	Level (type) Year 2 (CORE)	CP 7.5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>	
CO-603-A	Entrepreneurship and Innovation	Seminar	7.5	
Module Coordinator Prof. Dr. Sven Voelpel	Program Affiliation <ul style="list-style-type: none"> International Business Administration (IBA) 		Mandatory Status Mandatory elective for 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"> Seminar (52.5 hours) Private Study (135 hours) 	
<input checked="" type="checkbox"/> Introduction to International Business and Introduction to Finance and Accounting and Microeconomics and Macroeconomics	<input checked="" type="checkbox"/> None			
		1 semester	187.5 hours	
Recommendations for Preparation				
<p>This module is based on the knowledge students acquired in the CHOICE modules during the first study year. For preparation, students should recall the topics related to innovation and financial planning.</p>				
Content and Educational Aims				
<p>Innovation is the principal source of sustainable competitive advantage for firms around the world. However, building an organization that can successfully and repeatedly bring innovations to market is a daunting managerial challenge. This module will focus on the practices and processes managers use to manage innovation effectively. Over the semester, several aspects will be examined with regard to innovation: such as exploring, executing, leveraging and renewing innovation. The focus will be on entrepreneurial organizations. The module is designed to provide a deep grounding in the field of innovation for managers and entrepreneurs whose goal is to play a leading role in innovation-driven firms. The material moves between strategic issues (what should you do?) and organizational and managerial issues (how should you get it done?). The focus of the module is on exemplifying and experiencing the innovation process and implementation. Students have to develop business ideas and business plans. They will also be trained to present their business ideas in a pitch.</p>				
Intended Learning Outcomes				
<p>By the end of this module, students should be able to</p> <ul style="list-style-type: none"> identify organizational, managerial and financial opportunities and challenges within businesses; create value in terms of products and services while forming a business idea; sell their ideas to investors using excellent oral and visual presentation skills; transform theoretical knowledge into creative approaches while solving real-world problems; evaluate the needs of innovation and initiate creative processes to expand businesses; analyze markets and identify the best opportunities for the company formation; 				

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 elective for a major in IBA
- This module prepares students who are interested in founding their own business or StartUp. As such the module can support students who would like to choose the StartUp – Option in the “Internship/ StartUp and Career Skills” module

Examination Type: Module Examination

Type: Presentation

Duration: 10 minutes

Weight: 100%

Scope: All intended learning outcomes

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 <input checked="" type="checkbox"/> 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 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 <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>	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	<ul style="list-style-type: none"> None. 	Duration	Workload
			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

1.12 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> <input checked="" type="checkbox"/> None	<i>Knowledge, Abilities, or Skills</i> <ul style="list-style-type: none"> None 	Annually (Fall)	<ul style="list-style-type: none"> Seminar (35 hours) Private Studies (90 hours)
<input checked="" type="checkbox"/> Major in IBA or GEM		Duration 1 semester	Workload 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				

- 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

1.13 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				
Number	Name	Type	CP	
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	
Pre-requisites	Co-requisites <input checked="" type="checkbox"/> None	Knowledge, Abilities, or Skills <ul style="list-style-type: none"> Basic Concepts of Marketing 	Annually (Spring)	<ul style="list-style-type: none"> Seminar (35 hours) Private Studies (90 hours)
<input checked="" type="checkbox"/> Major in IBA or GEM		Duration 1 semester	Workload 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

1.14 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

1.15 Managing Public and Nonprofit Organizations

Module Name Managing Public Nonprofit Organizations		Module Code CA-S-GEM-802	Level (type) Year 3 (CAREER -- Specialization)	CP 5
Module Components				
Number	Name	Type		CP
CA-GEM-802	Managing Public and Nonprofit Organizations	Seminar		5
Module Coordinator Prof. Dr. T. Halaszovich	Program Affiliation • Global Economics and Management (GEM)	Mandatory Status Mandatory elective for GEM and IBA		
Entry Requirements		Frequency Annually (Spring)	Forms of Learning and Teaching • Seminar (35 hours) • Private study (90 hours)	
Pre-requisites	Co-requisites	Knowledge, Abilities, or Skills	Duration 1 semester	Workload 125 hours
<input checked="" type="checkbox"/> Major in IBA or GEM	<input checked="" type="checkbox"/> None	• None.		
Recommendations for Preparation				
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).				
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				
<ul style="list-style-type: none"> • 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

1.16 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>	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			
<i>Knowledge, Abilities, or Skills</i> <ul style="list-style-type: none"> Writing skills Logical and causality-based reasoning 		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				
<p>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.</p>				

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

1.17 Internship / Startup and Career Skills

Module Name Internship / Startup and Career Skills		Module Code CA-INT-900	Level (type) Year 3 (CAREER)	CP 15
Module Components				
Number	Name	Type		CP
CA-INT-900-0	Internship	Internship		15
Module Coordinator Predrag Tapavicki & Christin Klähn (CSC Organization); SPC / Faculty Startup Coordinator (Academic responsibility);	Program Affiliation • CAREER module for undergraduate study programs		Mandatory Status 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 (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				
<p>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.</p> <p>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</p>				

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

Module Name		Module Code	Level (type)	CP
Bachelor Thesis and Seminar		CA-IBA-800	Year 3 (CAREER)	15
Module Components				
Number	Name	Type		CP
CA-IBA-800-T	Thesis	Thesis		12
CA-IBA-800-S	Thesis Seminar	Seminar		3
Module Coordinator	Program Affiliation		Mandatory Status	
Study Program Chair	<ul style="list-style-type: none"> All undergraduate programs 		Mandatory for all undergraduate programs	
Entry Requirements			Frequency	Forms of Learning and Teaching
Pre-requisites	Co-requisites	Knowledge, Abilities, or Skills	Annually (Spring)	<ul style="list-style-type: none"> Self-study/lab work (350 hours) Seminars (25 hours)
Students must be in the third year and have taken at least 30 CP from CORE modules of their major.	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> Comprehensive knowledge of the subject and deeper insight into the chosen topic; ability to plan and undertake work independently; skills to identify and critically review literature. 	Duration	Workload
			1 semester	375 hours
Recommendations for Preparation				
<ul style="list-style-type: none"> Identify an area or a topic of interest and discuss this with your prospective supervisor in a timely manner. Create a research proposal including a research plan to ensure timely submission. Ensure you possess all required technical research skills or are able to acquire them on time. Review the University's Code of Academic Integrity and Guidelines to Ensure Good Academic Practice. 				

Content and Educational Aims

This module is a mandatory graduation requirement for all undergraduate students to demonstrate their ability to address a problem from their respective major subject independently by using academic/scientific methods within a time frame. Although supervised, this module requires students to be able to work independently and systematically and set their own goals in exchange for the opportunity to explore a topic that excites and interests them personally and that a faculty member is interested in supervising. Within this module, students apply their acquired knowledge about their major discipline, and their learned skills, and methods for conducting research, ranging from the identification of suitable (short-term) research projects, preparatory literature searches, the realization of discipline-specific research, and the documentation, discussion, interpretation, and communication of the results.

This module consists of two components, an independent thesis and an accompanying seminar. The thesis component must be supervised by a Jacobs University faculty member and requires short-term research work, the results of which must be documented in a comprehensive written thesis including an introduction, a justification of the methods, results, a discussion of the results, and a conclusion. The seminar provides students with the opportunity to practice their ability to present, discuss, and justify their and other students' approaches, methods, and results at various stages of their research in order to improve their academic writing, receive and reflect on formative feedback, and therefore grow personally and professionally.

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 factors;
5. apply their knowledge and understanding to a context of their choice;
6. develop, formulate, and advance solutions to problems and debates within 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 in the undergraduate program. Students apply the knowledge, skills, and competencies they have acquired and practiced during their studies, including research methods and their 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 Applied Statistics with R		Module Code JTMS-MET-03	Level (type) Year 1 (Methods)	CP 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>	<i>Knowledge, Abilities, or Skills</i>	Annually (Spring)	<ul style="list-style-type: none"> Lecture (17.5 hours) Lab (17.5 hours) Homework and self-study (90 hours)
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> none 	Duration	Workload
			1 semester	125 hours
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:				
<ul style="list-style-type: none"> 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 Daalgard (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.

1.19.1.4 Applied Statistics with SPSS

Module Name Applied Statistics with SPSS		Module Code JTMS-MET-02	Level (type) Year 1 (Methods)	CP 5
Module Components				
<i>Number</i>	<i>Name</i>		<i>Type</i>	<i>CP</i>
JTMS-02	Applied Statistics with SPSS		Lecture / Lab	5
Module Coordinator Klaus Boehnke	Program Affiliation <ul style="list-style-type: none"> Jacobs Track – Methods and Skills 		Mandatory Status Mandatory elective for IBA, SMP, ISCP and IRPH	
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) Lab (17.5 hours) self-study (55 hours) Preparation of in-class presentation (35 hours)
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None	<ul style="list-style-type: none"> none 	Duration	Workload
			1 semester	125 hours
Recommendations for Preparation				
None				
Content and Educational Aims				
<p>The module offers insights into quantitative methods of social science research and beyond. Students are familiarized with statistical concepts of basic and intermediate complexity. They examine their potential as well as limitations. Students gain knowledge about hypothesis testing for differences in the central tendencies of variables assessed in two or more groups, about bivariate correlations and—simple and multiple—regression. Approaches to finding patterns in social science data will be introduced; alternatives for non-metric, non-normal data will be discussed. The module takes a ‘cookbook approach’, to statistical methods. This means that it conveys how statistical tests are performed and how results are interpreted in the social sciences and beyond, while not requiring students to delve deeply into the mathematical foundations of applied statistics. The material will be presented in more traditional lectures and highly interactive practical labs. During the practical sessions, the tools and concepts discussed during the lecture sessions are applied to data obtained via a survey amongst participants and to ‘real’ datasets obtained in research projects of the methods section of the Department of Psychology & Methods. By attending the module, students will receive a basic training in the statistics software SPSS and develop proficiency in using SPSS as a social science research tool.</p>				
Intended Learning Outcomes				
<p>By the end of this module, students should be able to:</p> <ul style="list-style-type: none"> explain the potential of using quantitative methods in the social sciences; express informed skepticism to the limitations of statistical reasoning in the social sciences; interpret, within limits, the results sections of reports of empirical social science research; perform simple and intermediate-level statistical analyses of social science data, using SPSS; show flexibility in interpreting SPSS output, generated for unknown datasets, obtained from open access sources. 				
Indicative Literature				
<p>Bryman, A. & Cramer, D. (2011). Quantitative data analysis with IBM SPSS. London: Routledge. Field, A. (2017). Discovering statistics using IBM SPSS Statistics. London: Sage. George, D. & Mallery, P. (2019). IBM SPSS Statistics 26 step by step. A simple guide and reference. London: Routledge. Hinton, P., McMurray, I., & Brownlow, C. (2014). SPSS explained. London: Routledge.</p>				

Pollock III, P.H. (2019). An IBM SPSS companion to political Analysis. 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).
- Mandatory elective for a major in IBA, IRPH, ISCP and SMP
- Elective for all other study programs.
- Quantitative analytical skills are used and needed in many modules of all study programs.
- 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

Examination Type: Module Examination

Type: Written examination

Duration: 120 min

Weight: 100%

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

Scope: All intended learning outcomes of the module.

1.19.1.5 Qualitative Research Methods

Module Name Qualitative Research Methods		Module Code JTMS-MET-04	Level (type) Year 2 (Methods)	CP 5
Module Components				
Number	Name	Type		CP
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	
Pre-requisites <input checked="" type="checkbox"/> None		Annually (Fall)	<ul style="list-style-type: none"> In-class contact time (35 hours) Private study (90 hours) 	
Co-requisites <input checked="" type="checkbox"/> None		Duration	Workload	
Knowledge, Abilities, or Skills <ul style="list-style-type: none"> none 		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:				
<ul style="list-style-type: none"> 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.

1.19.1.6 Econometrics

Module Name Econometrics		Module Code JTMS-MET-05	Level (type) Year 2 (Methods)	CP 5	
Module Components					
<i>Number</i>	<i>Name</i>	<i>Type</i>		<i>CP</i>	
JTMS-05	Econometrics	Seminar		5	
Module Coordinator Prof. Dr. Colin Vance		Program Affiliation • Jacobs Track – Methods and Skills		Mandatory Status Mandatory for GEM Mandatory elective for IBA	
Entry Requirements			Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i>			Annually (Spring)	<ul style="list-style-type: none"> • Seminar (35 hours) • Private study (90 hours) 	
<i>Co-requisites</i>		<i>Knowledge, Abilities, or Skills</i>			
<input checked="" type="checkbox"/> Applied statistics with R		<input checked="" type="checkbox"/> None	<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					
<p>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>. <i>Journal of Economic Perspectives</i> 22(4): 199-216.</p>					
Content and Educational Aims					
<p>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.</p>					
Intended Learning Outcomes					
<p>By the end of this module, students should be able to:</p> <ul style="list-style-type: none"> • 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.

1.19.1.7 Data Collection and Empirical Research Methodologies

Module Name Data Collection and Empirical Research Methodologies		Module Code JTMS-MET-06	Level (type) Year 1 (Methods)	CP 5
Module Components				
Number	Name	Type		CP
JTMS-06	Data Collection and Empirical Research Methodologies	Lecture		5
Module Coordinator Mandi Larsen	Program Affiliation • Jacobs Track – Methods and Skills		Mandatory Status Mandatory for IRPH, ISCP and SMP Mandatory elective for IBA	
Entry Requirements		Frequency	Forms of Learning and Teaching	
Pre-requisites <input checked="" type="checkbox"/> None	Co-requisites <input checked="" type="checkbox"/> None	Annually (Spring)	<ul style="list-style-type: none"> • Lecture (35 hours) • Reading and self-study (30 hours) • Questionnaire construction and data collection (35 hours) • Preparation of research report (25 hours) 	
		Duration 1 semester	Workload 125 hours	
Recommendations for Preparation				
Content and Educational Aims				
<p>How exactly does empirical research work? This module gives an overview of the basic concepts and strategies involved in conducting empirical research in the social sciences. Students learn about basic approaches towards research, such as quantitative and qualitative, basic and applied, descriptive and explanatory research, and about core concepts of empirical research such as research ethics, generating hypotheses and hypothesis testing, measurement, and evaluation criteria such as reliability and validity. The module shows how these concepts and ideas are applied in the context of various research techniques. Students will actively apply this knowledge to the context of survey research, which is presumably the most widespread mode of gathering data in the social sciences and adjacent disciplines. Students will be familiarized with diverse aspects of sampling strategies, developing state-of-the-art questionnaires, and conducting cutting-edge survey research. Questionnaire construction for different data-gathering modalities (paper-pencil, telephone, face-to-face, online) will be discussed, as will their utilization in diverse populations (different social groups, cultures and languages). Students will carry out small empirical survey research projects putting these skills into practice.</p>				
Intended Learning Outcomes				
<p>By the end of this module, students should be able to</p> <ul style="list-style-type: none"> • describe basic concepts involved in conducting empirical research in the social sciences; • outline the empirical research process; • carry out a small research project from start to finish: <ul style="list-style-type: none"> ○ formulate an empirical research question, as well as develop relevant hypotheses; ○ address issues of random probability sampling; ○ recognize issues related to various modes of data collection; ○ construct a social science questionnaire; • compose a first empirical research report. 				

Indicative Literature

Fowler, F. J. (2015). Survey research methods. Thousand Oaks, CA: Sage.
Neumann, W. (2014). Social research methods: Qualitative and quantitative approaches (7th International Edition). Harlow: Pearson.
Gray, D. E. (2014). Doing research in the real world (3rd edition). London: Sage.
Picardie, C. A. & Masick, K. D. (2014). Research methods: Designing and conducting research with a real-world focus. 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).
- This module builds on “Academic Writing and Academic Skills”, where students gain critical skills related to academic writing, as well as to understanding empirical literature.
- This module prepares IBA students with an interest in consumer or firm-level research for their Bachelor Thesis.
- This module also provides students with a first opportunity to carry out their own data collection, which will be helpful for the Bachelor Thesis.
- Mandatory for a major in IRPH, ISCP and SMP.
- Mandatory elective for major in IBA
- Elective for all other study programs.

Examination Type: Module Examination

Assessment type: Research report

Length: 2500-3000 words
Weight: 100%

Scope: Should demonstrate: (1) knowledge of the empirical research process and its key concepts; (2) ability to carry out a small empirical research project; and (3) ability to accurately report on the research process in writing. 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 Water: The Most Precious Substance on Earth		Module Code JTBQ-BQ-002	Level (type) Year 3 (Jacobs Track)	CP 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 M. Bau and D. Mosbach	Program Affiliation • Big Questions Area: All undergraduate study programs except IEM		Mandatory Status • 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 2 semesters	Workload 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 Ethics in Science and Technology		Module Code JTBQ-BQ-003	Level (type) Year 3 (Jacobs Track)	CP 5.0
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>		<i>CP</i>
JTBQ-003	Ethics in Science and Technology	Lecture /Projects		5.0
Module Coordinator A. Lerchl	Program Affiliation • Big Questions Area: All undergraduate study programs, except IEM		Mandatory Status • 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>	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			
		Duration	Workload	
		1 semester	125 hours	
Recommendations for Preparation				
Critically following media coverage of the scientific 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 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.</p> <p>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.</p>				

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 Global Health – Historical context and future challenges		Module Code JTBQ-BQ-004	Level (type) Year 3 (Jacobs Track)	CP 5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>		<i>CP</i>
JTBQ-004	Global Health – Historical context and future challenges	Lecture		5
Module Coordinator A. M. Lisewski	Program Affiliation <ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs, except IEM 		Mandatory Status <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) 	
☒ None	☒ None			
		Duration	Workload	
		1 semester	125 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>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.</p>				

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 Global Existential Risks			Module Code JTBQ-BQ-005	Level (type) Year 3 (Jacobs Track)	CP 2.5
Module Components					
Number	Name			Type	CP
JTBQ-005	Global Existential Risks			Lecture	2.5
Module Coordinator M. A. Lisewski	Program Affiliation <ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs except IEM 			Mandatory Status <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 1 semester	Workload 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 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</p>					

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

Duration: 60 min.

Scope: All intended learning outcomes of the module

Weight: 100%

1.19.2.5 Future: From Predictions and Visions to Preparations and Actions

Module Name Future: From Predictions and Visions to Preparations and Actions			Module Code JTBQ-BQ-006	Level (type) Year 3 (Jacobs Track)	CP 2.5
Module Components					
<i>Number</i>	<i>Name</i>			<i>Type</i>	<i>CP</i>
JTBQ-006	Future: From Predictions and Visions to Preparations and Actions			Lecture	2.5
Module Coordinator Joachim Vogt	Program Affiliation <ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs, except IEM 			Mandatory Status <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 1 semester	Workload 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 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.</p> <p>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.</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 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 Climate Change		Module Code JTBQ-BQ-007	Level (type) Year 3 (Jacobs Track)	CP 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 L. Thomsen/ V. Unnithan	Program Affiliation <ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs, except IEM 		Mandatory Status <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 (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			
		Duration	Workload	
		1 semester	62.5 hours	
Knowledge, Abilities, or Skills				
<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 				
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' 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.</p> <p>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.</p>				
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 Extreme Natural Hazards, Disaster Risks, and Societal Impact		Module Code JTBQ-BQ-008	Level (type) Year 3 (Jacobs Track)	CP 2.5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>	<i>CP</i>	
JTBQ-008	Extreme Natural Hazards: Disaster Risks, and Societal Impact	Lecture	2.5	
Module Coordinator L. Thomsen	Program Affiliation <ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs, except IEM 		Mandatory Status <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 1 semester	Workload 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				
<ul style="list-style-type: none"> 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 International Development Policy		Module Code JTBQ-BQ-009	Level (type) Year 3 (Jacobs Track)	CP 2.5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>		<i>CP</i>
JTBQ-009	International Development Policy	Lecture		2.5
Module Coordinator C. Knoop	Program Affiliation <ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs, except IEM 		Mandatory Status <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 1 semester	Workload 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' 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.</p> <p>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.</p>				

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 Sustainable Value Creation with Biotechnology. From Science to Business.		Module Code JTBQ-BQ-011	Level (type) Year 3 (Jacobs Track)	CP 2.5
Module Components				
<i>Number</i>	<i>Name</i>	<i>Type</i>		<i>CP</i>
JTBQ-011	Sustainable Value Creation with Biotechnology. From Science to Business	Lecture Tutorial	-	2.5
Module Coordinator Marcelo Fernandez Lahore	Program Affiliation <ul style="list-style-type: none"> Jacobs Track - Big Questions 		Mandatory Status <ul style="list-style-type: none"> Mandatory elective for students of all undergraduate study except IEM 	
Entry Requirements			Frequency	Forms of Learning and Teaching
<i>Pre-requisites</i> <input checked="" type="checkbox"/> None	<i>Co-requisites</i> <input checked="" type="checkbox"/> None	<i>Knowledge, Abilities, or Skills</i> <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 	Annually (Spring)	<ul style="list-style-type: none"> Lecture and Tutorial (17.5 hours) Private study (45 hours)
			Duration 1 semester	Workload 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.

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

Weight: 25%

1.19.2.10 Gender and Multiculturalism. Debates and Trends in Contemporary Societies

Module Name Gender and Multiculturalism. Debates and Trends in Contemporary Societies		Module Code JTBQ-BQ-013	Level (type) Year 3 (Jacobs Track)	CP 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 J. Price	Program Affiliation <ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs 	Mandatory Status Mandatory elective for students of all undergraduate study programs, except IEM		
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i> <input checked="" type="checkbox"/> None	<i>Co-requisites</i> <input checked="" type="checkbox"/> None	Annually (Fall)	<ul style="list-style-type: none"> Lectures (17.5 hours) Project work (90 hours) Private study (17.5 hours) 	
		Duration 1 semester	Workload 125 hours	
		<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 		
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, 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</p>				

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 The Challenge of Sustainable Energy		Module Code JTBQ-BQ-014	Level (type) Year 3 (Jacobs Track)	CP 2.5
Module Components				
<i>Number</i>		<i>Type</i>		<i>CP</i>
JTBQ-014	The Challenge of Sustainable Energy		Lecture	2.5
Module Coordinator K. Smith Stegen	Program Affiliation <ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs 		Mandatory Status Mandatory elective for students of all undergraduate study programs, except IEM	
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i> <input checked="" type="checkbox"/> None	<i>Co-requisites</i> <input checked="" type="checkbox"/> None	Annually (Spring)	<ul style="list-style-type: none"> Lectures and Group Exercises 	
		Duration 1 semester	Workload 62.5 hours	
		<ul style="list-style-type: none"> Ability to read texts from a variety of disciplines 		
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 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.</p>				
Intended Learning Outcomes				
Students acquire transferable and key skills in this module.				
By the end of this module, students will be able to				
<ul style="list-style-type: none"> 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 State, Religion and Secularism		Module Code JTBQ-BQ-015	Level (type) Year 3 (Jacobs Track)	CP 2.5
Module Components				
<i>Number</i>		<i>Type</i>		<i>CP</i>
JTBQ-015	State, religion and secularism		Lecture	2.5
Module Coordinator Manfred O. Hinz	Program Affiliation <ul style="list-style-type: none"> Big Questions Area: All undergraduate study programs 		Mandatory Status Mandatory elective for students of all undergraduate study programs, except IEM	
Entry Requirements		Frequency	Forms of Learning and Teaching	
<i>Pre-requisites</i> <input checked="" type="checkbox"/> None	<i>Co-requisites</i> <input checked="" type="checkbox"/> None	<i>Knowledge, Abilities, or Skills</i> <ul style="list-style-type: none"> Ability to read texts from a variety of disciplines 	Annually (Spring)	<ul style="list-style-type: none"> Lectures and Group Exercises
		Duration 1 semester	Workload 62.5 Hours	
Recommendations for Preparation Reflect on the situation and role in respective home-country				
Content and Educational Aims 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.				
Intended Learning Outcomes By the end of this course, students should be able <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 Community Impact Project		Module Code JTCl-CI-950	Level (type) Year 3 (Jacobs Track)	CP 5
Module Components				
Number	Name	Type	CP	
JTCl-950	Community Impact Project	Project	5	
Module Coordinator CIP Faculty Coordinator		Program Affiliation • All undergraduate study programs except IEM		Mandatory Status 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 (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 	Duration 1 semester	
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

International Business Administration BA					Microeconomics	Macroeconomics	Introduction to International Business	Introduction to Finance and Accounting	Elective CHOICE	Applied Project Management	International Strategic Management	Digital Transformation and Information Economy	Entrepreneurship and Innovation	Marketing	Organization and Human Resources Management	Lean Management	Managerial Accounting	Contemporary Topics in Marketing	Managing Public and Nonprofit Organizations	Internship / Startup and Career Skills	Bachelor Thesis	JT Methods and Skills	JT Language Module	JT Community Impact Project	JT Big Questions				
Semester					1	2	1	2	1/2	3	4	3	4	3	4	5-6	5-6	5-6	5-6	4-5	6	1-4	1-4	5	5-6				
Mandatory/ optional					m	m	m	m	me	me	me	me	me	me	me	me	me	me	me	m	m	m	m	m	m				
ECTS Credits					7,5	7,5	7,5	7,5	15	7,5	7,5	7,5	7,5	7,5	7,5	5,0	5,0	5,0	5,0	15,0	15,0	20,0	10,0	5,0	10,0				
					Competencies*																								
Program Learning Outcomes					A	E	P	S																					
critically discuss and apply modern theories of business and economics					x	x				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x					
explain the organizational behavior of Multinational Enterprises (MNE), Small and Medium Sized Enterprises (SME) and other organizations in various cultural and economic environments					x	x		x					x	x	x	x			x	x	x	x							
discuss how the political, economic, social, and technological environments affect business functions in a globalized world					x	x	x						x	x	x	x			x	x									
applying principles of international strategy to evaluate and solve challenges of transnational business					x	x			x				x	x															
applying principles of marketing, organization and human resource management to evaluate and solve challenges of cross-cultural stakeholders insight and					x	x		x					x	x	x				x										
utilize principles of finance and accounting to describe and evaluate the financial performance of companies					x	x			x					x				x											
advance creative solutions to real international business situations using management knowledge and creative techniques such as design thinking					x	x	x			x				x	x	x								x					
defend these solutions in discussions with specialists and non-specialists					x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
such as the development of business models and StartUps						x	x	x						x	x	x					x				x				
consider the social responsibility and ethical behavior of individuals, organizations and governments; Use academic research methods to investigate business problems and 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		
use advanced statistical software and methods in research and business					x	x									x			x											
apply social and intercultural competences needed to take on responsibility in diverse, international teams with competing and overlapping interests						x	x	x						x	x	x	x	x			x	x	x		x	x	x		
structure and communicate complex issues					x	x	x	x						x	x					x	x	x	x	x					
communicate professionally with respect to the content and audience					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			
take responsibility for their own learning, personal and professional development and role in society, evaluating critical feedback and self-analysis							x	x						x	x						x	x	x			x	x		
apply knowledge and understanding to a professional context					x	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x				x			
adhere to and defend ethical, scientific and professional standards					x	x	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				x	x		
Assessment Type																													
Oral examination																													
Written examination					x	x	x	x																					
Project																													
Term paper															x														
Lab report																													
Poster presentation																													
Presentation																													
Variable																													
Module achievements or bonus points																													

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

Figure 4: Intended Learning Outcomes Assessment-Matrix