TUHH
Hamburg
University of
Technology

Module Manual

Master of Science (M.Sc.)

Global Technology and Innovation Management & Entrepreneurship

Joint Master

Cohort: Winter Term 2021

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Program description

Content

The MSc. in **Global Technology and Innovation Management & Entrepreneurship (G-TIME)** is a unique 2-year programme offered jointly by a consortium of internationally renowned universities. The consortium consists of following partners: **Aalborg University** (Denmark), **Kaunas University of Technology** (Lithuania), **Manipal University** (India), **Ritsumeikan Asia Pacific University** (Japan), **Hamburg University of Technology** (Germany) and **University of Strathclyde** (Scotland).

The MSc. G-TIME enables graduates of first degrees in engineering, science and technology to successfully manage the innovation process across international boundaries. Students have the opportunity to study at two different universities. The program starts off in Hamburg (Germany) where all students spend the first year (1st & 2nd semester) together. During the second year (3rd & 4th semester) students deepen their G-TIME knowledge at one of the international partner institutions.

Career prospects

Graduates, supported by a network of valuable contacts, enter the international employment market working:

- with enterprises dealing with high end technological products and services
- as consultants making technology assessment and innovation /change management
- with governmental institutes dealing with innovation policy and strategy
- with relevant research and higher education institutions

Learning target

The program equips students with skills to transform research outputs into innovative products and services. Learning the tools and techniques for working globally, students apply this knowledge practically by working on projects with industry contacts in different countries, further enhancing their understanding of international business. G-TIME addresses new challenges in innovative global enterprise and provides:

- A practical and global perspective of Innovation Management, through industry based modules
- Skills applicable for larger multinational organisations to smaller enterprises including start-ups
- Expanded perspectives of Innovation Management including Technology Management, R&D, and Product/Service Development with focus on the interface between disciplines involved in the process;
- Increased research capability focused on activities at the periphery of the innovation process.

Program structure

The programme is fulltime over 24 months and divided into 4 semesters of study. All students take a common first year at Hamburg University of Technology. Depending on their special interests they choose one of the international partner institutions for the second year.

Semesters 1 and 2 at Hamburg University of Technology provide a strong foundation in the field of Technology and Innovation Management. They look at early and late phases of the innovation management process. It concentrates on market research for (radical) innovation, cross functional cooperation at the front end of the innovation process, managing innovation projects over geographical and functional/divisional boarders and preparing the market introduction of new products and services. In addition, they provide a foundation in the field of Entrepreneurship.

The course content of semester 3 (year 2) depends on which partner institution is chosen. Based on their specific core competencies each partner offers courses which complement / deepen the study program of the first year.

In semester 4 all students undertake a thesis project at the institution where they spent the 3rd semester.

Core Qualification

The MSc. in **Global Technology and Innovation Management & Entrepreneurship (G-TIME)** is a unique 2-year programme offered jointly by a consortium of internationally renowned universities. The consortium consists of following partners: **Aalborg University** (Denmark), **Kaunas University of Technology** (Lithuania), **Manipal University** (India), **Ritsumeikan Asia Pacific University** (Japan), **Hamburg University of Technology** (Germany) and **University of Strathclyde** (Scotland).

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Module M0524: Non-technical Courses for Master

Module Responsible	Dagmar Richter
Admission Requirements	None
Recommended Previous Knowledge	None
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	**The Nontechnical Academic Programms (NTA)** imparts skills that, in view of the TUHH's training profile, professional engineering studies require but are not able to cover fully. Self-reliance, self-management, collaboration and professional and personnel management competences. The department implements these training objectives in its **teaching architecture**, in its **teaching and learning arrangements**, in **teaching areas** and by means of teaching offerings in which students can qualify by opting for **specific competences** and a **competence level** at the Bachelor's or Master's level. The teaching offerings are pooled in two different catalogues for nontechnical complementary courses. **The Learning Architecture** consists of a cross-disciplinarily study offering. The centrally designed teaching offering ensures that courses in the nontechnical academic programms follow the specific profiling of TUHH degree courses. The learning architecture demands and trains independent educational planning as regards the individual development of competences. It also provides orientation knowledge in the form of "profiles". The subjects that can be studied in parallel throughout the student's entire study program - if need be, it can be studied in one to two semesters. In view of the adaptation problems that individuals commonly face in their first semesters after making the transition from school to university and in order to encourage individually planned semesters abroad, there is no obligation to study these subjects in one or two specific semesters during the course of studies. **Teaching and Learning Arrangements** provide for students, separated into B.Sc. and M.Sc., to learn with and from each other across semesters. The challenge of dealing with interdisciplinarity and a variety of stages of learning in courses are part of the learning architecture and are deliberately encouraged in specific courses. **Fields of Teaching** are based on research findings from the academic disciplines cultural studies, social studies, arts, historical studies, communication studies, migration studies and sustainability research, and from engineering didactics. In addition, from the winter semester 2014/15 students on all Bachelor's courses will have the opportunity to learn about business management and start-ups in a goal-oriented way. The fields of teaching are augmented by soft skills offers and a foreign language offer. Here, the focus is on encouraging goal-oriented communication skills, e.g. the skills required by outgoing engineers in international and intercultural situations. **The Competence Level** of the courses offered in this area is different as regards the basic training objective in the Bachelor's and Master's fields. These differences are reflected in the practical examples used, in content topics that refer to different professional application contexts, and in the higher scientific and theoretical level of abstraction in the B.Sc. This is also reflected in the different quality of soft skills, which relate to the different team positions and different group leadership functions of Bachelor's and Master's graduates in their future working life. **Specialized Competence (Knowledge)** Students can • explain specialized areas in context of the relevant non-technical disciplines, • outline basic theories, categories, terminology, models, concepts or artistic techniques in the disciplines represented in the learning area, • different specialist disciplines relate to their own discipline and differentiate it as well as make connections, • sketch the basic outlines of how scientific disciplines, paradigms, models, instruments, methods and forms of representation in the specialized sciences are subject to individual and socio-cultural interpretation and historicity, • Can communicate in a foreign language in a manner appropriate to the subject.

Skills	**Professional Competence (Skills)** In selected sub-areas students can • apply basic and specific methods of the said scientific disciplines, • aquestion a specific technical phenomena, models, theories from the viewpoint of another, aforementioned specialist discipline, • to handle simple and advanced questions in aforementioned scientific disciplines in a sucsessful manner, • justify their decisions on forms of organization and application in practical questions in contexts that go beyond the technical relationship to the subject.
Personal Competence	
Social Competence	**Personal Competences (Social Skills)** Students will be able • to learn to collaborate in different manner, • to present and analyze problems in the abovementioned fields in a partner or group situation in a manner appropriate to the addressees, • to express themselves competently, in a culturally appropriate and gender-sensitive manner in the language of the country (as far as this study-focus would be chosen), • to explain nontechnical items to auditorium with technical background knowledge.
Autonomy	**Personal Competences (Self-reliance)** Students are able in selected areas • to reflect on their own profession and professionalism in the context of real-life fields of application • to organize themselves and their own learning processes • to reflect and decide questions in front of a broad education background • to communicate a nontechnical item in a competent way in writen form or verbaly • to organize themselves as an entrepreneurial subject country (as far as this study-focus would be chosen)
Workload in Hours	Depends on choice of courses
Credit points	6

Courses
Information regarding lectures and courses can be found in the corresponding module handbook published separately.

Module M1601: Foundations of Corporate Management (GTIME)

Courses

Title	Typ	Hrs/wk	CP
Foundations of Business Management (GTIME) (L2417)	Lecture	2	2
Foundations of Business Management (GTIME) - Seminar (L2825)	Seminar	2	1
Foundations of International Management (GTIME) (L2419)	Lecture	2	2
Foundations of International Management (GTIME) - Seminar (L2826)	Seminar	2	1

Module Responsible	Dr. Stephan Buse
Admission Requirements	None
Recommended Previous Knowledge	
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence *Knowledge* *Skills* **Personal Competence** *Social Competence* *Autonomy*	
Workload in Hours	Independent Study Time 68, Study Time in Lecture 112
Credit points	6
Course achievement	None
Examination	Written elaboration
Examination duration and scale	90 Minuten
Assignment for the Following Curricula	Global Innovation Management: Core Qualification: Elective Compulsory Global Technology and Innovation Management & Entrepreneurship: Core Qualification: Compulsory

Course L2417: Foundations of Business Management (GTIME)

Typ	Lecture
Hrs/wk	2
CP	2
Workload in Hours	Independent Study Time 32, Study Time in Lecture 28
Lecturer	Dr. Stephan Buse
Language	EN
Cycle	WiSe
Content	In addition to the classical lecture approach, case study analyses and the implementation of a business simulation are used. This course teaches the relevant elements of strategic business management. It covers various areas of business administration (e.g. strategic management and aspects of marketing). Upon completion of the course, students should understand different perspectives on the topics and know in which situations which tools can be used and what the limitations of these models/concepts are. Students will be able to integrate future strategy and business model concepts into the taxonomy of approaches. The course thus provides an introduction to the most important principles and concepts necessary to understand how companies operate in today's business world. This includes the analysis of an extremely dynamic, increasingly globalizing competitive environment as well as the analysis of the required internal (core) competencies. It also aims to develop analytical skills that facilitate problem-solving and strategic decision-making activities in companies. In addition to the classical lecture approach, case study analyses and the execution of a business simulation are used.
Literature	Johnson et al.: Strategisches Management - Eine Einführung: Analyse, Entscheidung und Umsetzung, Pearson Studium, 12. Auflage Michael E. Porter: Wettbewerbsstrategie: Methoden zur Analyse von Branchen und Konkurrenten, Campus Verlag, 12. Auflage Prahalad, C.K./ Hamel, G.: The Core Competence of the Corporation, in: Business Review, 68/3 1990 Kim, W.C./ Mauborgne, R.: Blue Ocean Strategy, in: Harvard Business Review, October 2004

Course L2825: Foundations of Business Management (GTIME) - Seminar

Typ	Seminar
Hrs/wk	2
CP	1
Workload in Hours	Independent Study Time 2, Study Time in Lecture 28
Lecturer	Dr. Stephan Buse
Language	EN
Cycle	WiSe
Content	
Literature	

Course L2419: Foundations of International Management (GTIME)	
Typ	Lecture
Hrs/wk	2
CP	2
Workload in Hours	Independent Study Time 32, Study Time in Lecture 28
Lecturer	Dr. Stephan Buse
Language	EN
Cycle	SoSe
Content	This course covers the basics of international management. Among other things, students learn about various forms of market selection and market entry strategies as well as methods for determining the optimal time to enter foreign markets. In addition to the classical lecture approach, case study analyses and the execution of a business simulation are used.
Literature	

Course L2826: Foundations of International Management (GTIME) - Seminar	
Typ	Seminar
Hrs/wk	2
CP	1
Workload in Hours	Independent Study Time 2, Study Time in Lecture 28
Lecturer	Dr. Stephan Buse
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1600: Mindfulness and Communication

Courses

Title	Typ	Hrs/wk	CP
Mindfulness and Leadership (L2421)	Project Seminar	2	2
Intercultural Competencies (L2420)	Lecture	2	2
Communication Skills (L2422)	Project Seminar	2	2

Module Responsible	Dr. Stephan Buse
Admission Requirements	None
Recommended Previous Knowledge	
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence *Knowledge* *Skills* **Personal Competence** *Social Competence* *Autonomy*	
Workload in Hours	Independent Study Time 96, Study Time in Lecture 84
Credit points	6
Course achievement	None
Examination	Written elaboration
Examination duration and scale	90 Minuten
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Core Qualification: Compulsory

Course L2421: Mindfulness and Leadership

Typ	Project Seminar
Hrs/wk	2
CP	2
Workload in Hours	Independent Study Time 32, Study Time in Lecture 28
Lecturer	Prof. Cornelius Herstatt, Dr. Sandra-Luisa Moschner
Language	EN
Cycle	WiSe
Content	Mindfulness defines a situation, in which a person is mentally present without being distracted from thoughts or emotions. These are neither analyzed nor judged. Mindfulness is an important element of the Buddhist tradition and is taught through mindfulness-based stress reduction (MBSR)-trainings, Yoga, and meditation approaches in western culture. Until today, effects of mindfulness are tested and studied in medical and psychological clinical contexts. However, nowadays it is also part of the new work trend and enters the business context. During the seminar different mindfulness practices are presented, practiced and their effects on creativity, innovation, and entrepreneurship are discussed.
Literature	Csiksdentmihalyi, M. (1990). Flow. The Psychology of Optimal Experience. HarperCollins. Williams, M., Penman, D. (2011). Mediation im Alltag. Gelassenheit finden in einer hektischen Welt. Arkana. Murnieks, C. Y. et al. (In Press). Close your eyes or open your mind: Effects of sleep and mindfulness exercises on entrepreneurs' exhaustion. Journal of Business Venturing. Byrne, E. K., Thatchenkery, T. (2018). How to Use Mindfulness to Increase Your Team's Creativity. Harvard Business Review. Memmert, D. (2007). Can Creativity Be Improved by an Attention-Broadening Training Program? An Exploratory Study Focusing on Team Sports. Creativity Research Journal 19 (2-3), S. 281-291. Den Heijer, P. et al. (2017). Don’t Forget to Breathe: A Controlled Trial of Mindfulness Practices in Agile Project Teams. Working Paper.

Course L2420: Intercultural Competencies	
Typ	Lecture
Hrs/wk	2
CP	2
Workload in Hours	Independent Study Time 32, Study Time in Lecture 28
Lecturer	Dr. Stephan Buse, Prof. Dr. habil. Rajnish Tiwari
Language	EN
Cycle	WiSe
Content	Globalization of business processes and the revolution in information and communication technologies (ICT) have resulted in distributed workflows across geographic boundaries. These developments as well as increased immigration emanating, for example, as a consequence of a shortage of skilled labour in many industrialized nations, have led to the creation of (virtual) multi-cultural, multi-ethnic teams with diverse cultural backgrounds. Such diversity generally has a positive impact on creativity and innovativeness, as many empirical studies confirm. Nevertheless, varying cultural practices, communication styles, and contextual sensibilities have the potential to disturb or even disrupt collaborative work processes, if left unmanaged. This course focuses on inter-cultural management from both, theoretical as well as practical, points of view to provide a solid fundament to students enabling them to operate successfully in cross-cultural settings. Case studies and guest lecture(s) will be used to provide added practical relevance to the course. In addition, where practicable, student assignments will be used to foster autonomous learning. Some of the main topics covered in this course include: • Understanding “culture” and its impact on human interaction • Verbal and non-verbal communication • High and low context communication • Role of formality and non-formality in communication • Varying interpretations of symbols, rituals & gestures • Managing diversity in domestic settings
Literature	• Bartlett, C.A. / Ghoshal, S. (2002): Managing Across Borders: The Transnational Solution, 2nd edition, Boston • Deresky, H. (2006): International Management: Managing Across Borders and Cultures, 3rd edition, Upper Saddle River • French, R. (2010): Cross-cultural Management in Work Organisations, 2nd edition, London • Hofstede, G. (2003): Culture's Consequences : Comparing Values, Behaviors, Institutions and Organizations across Nations, 2nd edition, Thousand Oaks • Hofstede, G. / Hofstede, G.J. (2006): Cultures and Organizations: Software of the mind, 2nd edition, New York

Course L2422: Communication Skills	
Typ	Project Seminar
Hrs/wk	2
CP	2
Workload in Hours	Independent Study Time 32, Study Time in Lecture 28
Lecturer	Prof. Cornelius Herstatt, Malte David Krohn
Language	EN
Cycle	WiSe
Content	The purpose of this course is to equip students with important communication skills to successfully navigate the dynamic world of professionals dealing with innovation. Students will explore the field of communication by getting in touch with different communication models, like the Schramm model of communication. Successfully communicating complex ideas in a simple, yet engaging way is key to bring about change in organizations. Here, proficiency with tools like PowerPoint is crucial to create compelling visual support. Also, future change makers need to bring together perspectives in multidisciplinary and increasingly intercultural teams. Being able to give and receive feedback in a constructive way is equally important. Communication will be discussed in these different facets in an interactive format and a focus on practical application.
Literature	Kratzer, J., Leenders, O. T. A., & Engelen, J. M. V. (2004). Stimulating the potential: Creative performance and communication in innovation teams. Creativity and Innovation Management, 13(1), 63-71. Hoegl, M., & Gemuenden, H. G. (2001). Teamwork quality and the success of innovative projects: A theoretical concept and empirical evidence. Organization science, 12(4), 435-449. Schram, W. E. (1954). The process and effects of mass communication. Thach, E. C. (2002). The impact of executive coaching and 360 feedback on leadership effectiveness. Leadership & Organization Development Journal, 23(4), 205-214. Löwgren, J., & Stolterman, E. (2004). Thoughtful interaction design: A design perspective on information technology. MIT Press.

Module M1705: Shaping the world of tomorrow

Courses

Title	Typ	Hrs/wk	CP
Shaping the world of tomorrow (L2718)		4	6

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence *Knowledge* *Skills* **Personal Competence** *Social Competence* *Autonomy*	
Workload in Hours	Independent Study Time 124, Study Time in Lecture 56
Credit points	6
Course achievement	None
Examination	Written elaboration
Examination duration and scale	5-Minütiger Film + schriftliche Dokumentation
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Core Qualification: Elective Compulsory

Course L2718: Shaping the world of tomorrow

Typ	
Hrs/wk	4
CP	6
Workload in Hours	Independent Study Time 124, Study Time in Lecture 56
Lecturer	Dummy Dozent
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1706: Data Science & Machine Learning for Manager

Courses

Title	Typ	Hrs/wk	CP
Data Science & Machine Learning for Managers (L2719)		4	6

Module Responsible	Dozenten des SD W
Admission Requirements	None
Recommended Previous Knowledge	
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence *Knowledge* *Skills* **Personal Competence** *Social Competence* *Autonomy*	
Workload in Hours	Independent Study Time 124, Study Time in Lecture 56
Credit points	6
Course achievement	None
Examination	Subject theoretical and practical work
Examination duration and scale	40 pages lab journal
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Core Qualification: Elective Compulsory

Course L2719: Data Science & Machine Learning for Managers

Typ	
Hrs/wk	4
CP	6
Workload in Hours	Independent Study Time 124, Study Time in Lecture 56
Lecturer	Prof. Christoph Ihl
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1035: Entrepreneurial Finance

Courses

Title	Typ	Hrs/wk	CP
Entrepreneurial Finance: Case Studies (L1282)	Seminar	3	4
Entrepreneurial Finance: Lecture (L1281)	Lecture	2	2

Module Responsible	Prof. Christoph Ihl
Admission Requirements	None
Recommended Previous Knowledge	Basic knowledge in business economics and finance obtained in the compulsory modules and participation in the module "Technology Entrepreneurship" is highly recommended.
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	Wissen (subject-related knowledge and understanding): • understand the structure of a financial plan for a new venture • understand the procedures, pros and cons of different valuation methods • understand the design of financial contracts and term sheets • understand the interests of venture capital funds • understand the pros and cons of different growth and exit options
Skills	Fertigkeiten (subject-related skills): • prepare a financial plan for a new venture • value a new venture in financial terms • apply different valuation methods • evaluate the attractiveness of financial contracts • design VC term sheets • design employee contracts in terms of financial compensation • design financial contracts and conduct financial negotiations • assess and justify possible growth and exit options
Personal Competence	
Social Competence	Sozialkompetenz (Social Competence): • team work • communication and presentation • give and take critical comments • engaging in fruitful discussions
Autonomy	Selbständigkeit (Autonomy): • autonomous work and time management • project management • analytical skills
Workload in Hours	Independent Study Time 110, Study Time in Lecture 70
Credit points	6
Course achievement	**Compulsory** / **Bonus** / **Form** / **Description** Yes / 20 % / Group discussion
Examination	Subject theoretical and practical work
Examination duration and scale	Presentations and case study work
Assignment for the Following Curricula	Global Innovation Management: Core Qualification: Elective Compulsory Global Technology and Innovation Management & Entrepreneurship: Core Qualification: Elective Compulsory International Management and Engineering: Specialisation I. Electives Management: Elective Compulsory Mechanical Engineering and Management: Specialisation Management: Elective Compulsory

Course L1282: Entrepreneurial Finance: Case Studies	
Typ	Seminar
Hrs/wk	3
CP	4
Workload in Hours	Independent Study Time 78, Study Time in Lecture 42
Lecturer	Prof. Christoph Ihl
Language	EN
Cycle	WiSe
Content	Entrepreneurial finance is at the center of a clash of two very distant worlds: that of entrepreneurship and that of finance. Finance is disciplined, based on numbers and logical thinking and looking for proven track records. Entrepreneurship is messy, based on intuition and experimentation and treading off the beaten track. Entrepreneurial finance is the provision of funding to young, innovative, growth-oriented companies. Entrepreneurial companies are young, typically less than ten years old, and introduce innovative products or business models. The younger are called “startups,” and are typically less than five years old. There is a variety of investors who can finance entrepreneurial companies: family and friends, business angels, accelerators and incubators, crowdfunding platforms, venture capital firms, corporate investors, etc. The course provides a thorough understanding of what motivates them, of the way they invest, and of what support they can provide to a company at what stage in the fundraising cycle. The course addresses the following key questions: How much money can and should be raised? When should it be raised and from whom? What is a reasonable valuation of the company? How should funding, employment contracts and exit decisions be structured? Thus, the course provides an understanding of the whole fundraising cycle, from the moment the entrepreneur conceived her idea to the moment investors exit the company and move on. We examine the entrepreneur's signalling to investors of the qualities of the venture, the investors' evaluation of the venture, the various dimensions of contracting (cash flow rights, control rights, compensation, and other clauses), the negotiation of a deal and the provision of corporate governance, the process of staged financing, the financing through debt, and the exit process though liquidity events such as initial public offering, sale or merger. The following topics will be covered with specific case studies: 1. Introduction: Evaluating Venture Opportunities 2. Financial Planning 3. Ownership and Returns 4. Valuation Methods 5. Term Sheets 6. Structuring Deals 7. Corporate Governance 8. Staged Financing 9. Debt Financing 10. Exits 11. Early Stage & Venture Capital Investors 12. Ecosystems
Literature	Da Rin, Marco, and Thomas Hellmann. Fundamentals of Entrepreneurial Finance. Oxford University Press, 2020.

Course L1281: Entrepreneurial Finance: Lecture	
Typ	Lecture
Hrs/wk	2
CP	2
Workload in Hours	Independent Study Time 32, Study Time in Lecture 28
Lecturer	Prof. Christoph Ihl
Language	EN
Cycle	WiSe
Content	Entrepreneurial finance is at the center of a clash of two very distant worlds: that of entrepreneurship and that of finance. Finance is disciplined, based on numbers and logical thinking and looking for proven track records. Entrepreneurship is messy, based on intuition and experimentation and treading off the beaten track. Entrepreneurial finance is the provision of funding to young, innovative, growth-oriented companies. Entrepreneurial companies are young, typically less than ten years old, and introduce innovative products or business models. The younger are called “startups,” and are typically less than five years old. There is a variety of investors who can finance entrepreneurial companies: family and friends, business angels, accelerators and incubators, crowdfunding platforms, venture capital firms, corporate investors, etc. The course provides a thorough understanding of what motivates them, of the way they invest, and of what support they can provide to a company at what stage in the fundraising cycle. The course addresses the following key questions: How much money can and should be raised? When should it be raised and from whom? What is a reasonable valuation of the company? How should funding, employment contracts and exit decisions be structured? Thus, the course provides an understanding of the whole fundraising cycle, from the moment the entrepreneur conceived her idea to the moment investors exit the company and move on. We examine the entrepreneur's signalling to investors of the qualities of the venture, the investors' evaluation of the venture, the various dimensions of contracting (cash flow rights, control rights, compensation, and other clauses), the negotiation of a deal and the provision of corporate governance, the process of staged financing, the financing through debt, and the exit process though liquidity events such as initial public offering, sale or merger. The following topics will be covered in lectures: 1. Introduction: Evaluating Venture Opportunities 2. Financial Planning 3. Ownership and Returns 4. Valuation Methods 5. Term Sheets 6. Structuring Deals 7. Corporate Governance 8. Staged Financing 9. Debt Financing 10. Exits 11. Early Stage & Venture Capital Investors 12. Ecosystems
Literature	Da Rin, Marco, and Thomas Hellmann. Fundamentals of Entrepreneurial Finance. Oxford University Press, 2020.

Module M1599: Technology Management (GTIME)

Courses

Title	Typ	Hrs/wk	CP
Technology Management (GTIME) (L2423)	Lecture	3	3
Technology Management Seminar (GTIME) (L2424)	Project-/problem-based Learning	2	3

Module Responsible	Prof. Cornelius Herstatt
Admission Requirements	None
Recommended Previous Knowledge	Bachelor knowledge in business management
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	Students will gain deep insights into: International R&D-Management Technology Timing Strategies • Technology Strategies and Lifecycle Management (I/II) • Technology Intelligence and Planning Technology Portfolio Management • Technology Portfolio Methodology • Technology Acquisition and Exploitation • IP Management Organizing Technology Development • Technology Organization & Management • Technology Funding & Controlling
Skills	The course aims to: • Develop an understanding of the importance of Technology Management - on a national as well as international level • Equip students with an understanding of important elements of Technology Management (strategic, operational, organizational and process-related aspects) • Foster a strategic orientation to problem-solving within the innovation process as well as Technology Management and its importance for corporate strategy • Clarify activities of Technology Management (e.g. technology sourcing, maintenance and exploitation) • Strengthen essential communication skills and a basic understanding of managerial, organizational and financial issues concerning Technology-, Innovation- and R&D-management. Further topics to be discussed include: • Basic concepts, models and tools, relevant to the management of technology, R&D and innovation • Innovation as a process (steps, activities and results)
Personal Competence	
Social Competence	• Interact within a team • Raise awareness for globabl issues
Autonomy	• Gain access to knowledge sources • Discuss recent research debates in the context of Technology and Innovation Management • Develop presentation skills • Discussion of international cases in R&D-Management
Workload in Hours	Independent Study Time 110, Study Time in Lecture 70
Credit points	6
Course achievement	None
Examination	Written exam
Examination duration and scale	90 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Core Qualification: Compulsory

Course L2423: Technology Management (GTIME)	
Typ	Lecture
Hrs/wk	3
CP	3
Workload in Hours	Independent Study Time 48, Study Time in Lecture 42
Lecturer	Prof. Cornelius Herstatt, Prof. Tim Schweisfurth
Language	EN
Cycle	WiSe
Content	The role of technology for the competitive advantage of the firm and industries; Basic concepts, models and tools for the management of technology; managerial decision making regarding the identification, selection and protection of technology (make or buy, keep or sell, current and future technologies). Theories, practical examples (cases), lectures, interactive sessions and group study. This lecture is part of the Module Technology Management and can not be separately choosen.
Literature	Leiblein, M./Ziedonis, A.: Technology Strategy and Inoovation Management, Elgar Research Collection, Northhampton (MA) 2011

Course L2424: Technology Management Seminar (GTIME)	
Typ	Project-/problem-based Learning
Hrs/wk	2
CP	3
Workload in Hours	Independent Study Time 62, Study Time in Lecture 28
Lecturer	Prof. Cornelius Herstatt, Prof. Daniel Heiner Ehls, Prof. Tim Schweisfurth
Language	EN
Cycle	WiSe
Content	Beside the written exam at the end of the module, students have to give one presentation (RE) on a research paper and two presentations as part of a group discussion (GD) in the seminar in order to pass. With these presentations it is possible to gain a bonus of max. 20% for the exam. However, the bonus is only valid if the exam is passed without the bonus.
Literature	See lecture Technology Management.

Module M1602: Product Planning (GTIME)

Courses

Title	Typ	Hrs/wk	CP
Product Planning (GTIME) (L2425)	Lecture	3	3
Product Planning Seminar (GTIME) (L2426)	Project-/problem-based Learning	2	3

Module Responsible	Prof. Cornelius Herstatt
Admission Requirements	None
Recommended Previous Knowledge	Good basic-knowledge of Business Administration
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	Students will gain insights into: Product Planning • Process • Methods Design thinking • Process • Methods • User integration
Skills	Students will gain deep insights into: Product Planning • Process-related aspects • Organisational-related aspects • Human-Ressource related aspects • Working-tools, methods and instruments
Personal Competence	
Social Competence	• Interact within a team • Raise awareness for globabl issues
Autonomy	• Gain access to knowledge sources • Interpret complex cases • Develop presentation skills
Workload in Hours	Independent Study Time 110, Study Time in Lecture 70
Credit points	6
Course achievement	None
Examination	Written exam
Examination duration and scale	90 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Core Qualification: Compulsory

Course L2425: Product Planning (GTIME)	
Typ	Lecture
Hrs/wk	3
CP	3
Workload in Hours	Independent Study Time 48, Study Time in Lecture 42
Lecturer	Prof. Cornelius Herstatt, Prof. Moritz Göldner
Language	EN
Cycle	WiSe
Content	Product Planning Process This integrated lecture is designed to understand major issues, activities and tools in the context of systematic product planning, a key activity for managing the front-end of innovation, i.e.: • Systematic scanning of markets for innovation opportunities • Understanding strengths/weakness and specific core competences of a firm as platforms for innovation • Exploring relevant sources for innovation (customers, suppliers, Lead Users, etc.) • Developing ideas for radical innovation, relying on the creativeness of employees, using techniques to stimulate creativity and creating a stimulating environment • Transferring ideas for innovation into feasible concepts which have a high market attractively Voluntary presentations in the third hour (articles / case studies) - Guest lectures by researchers
Literature	Ulrich, K./Eppinger, S.: Product Design and Development, 2nd. Edition, McGraw-Hill 2010

Course L2426: Product Planning Seminar (GTIME)	
Typ	Project-/problem-based Learning
Hrs/wk	2
CP	3
Workload in Hours	Independent Study Time 62, Study Time in Lecture 28
Lecturer	Prof. Cornelius Herstatt, Prof. Moritz Göldner
Language	EN
Cycle	WiSe
Content	Seminar is integrative part of the Module Product Planning (GTIME). For content see lecture information. The seminar can not be choosen independantly.
Literature	See lecture information "Product Planning".

Module M1590: Project Seminar Innovation Marketing (GTIME)

Courses

Title	Typ	Hrs/wk	CP
Seminar Innovation Marketing (GTIME) (L2427)	Project Seminar	4	6

Module Responsible	Prof. Christian Lüthje
Admission Requirements	None
Recommended Previous Knowledge	
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	Students can... • understand the process and the tools of market analysis for innovations (e.g. market potential, market growth, market segmentation) • explain the concepts of target customers, market definition and market growth • select the appropriate approach for leading a competitive analysis • explain the key market-related issues (strengths and weaknesses) of technology-based business opportunities
Skills	Students are capable of... • analyzing the market potential of inventions and innovative business ideas by using appropriate methods. • investigating whether a market is still open for a given innovation and develop a first concept for the market entry strategy and the marketing mix. • searching for relevant information (primary and secondary market data). • analyzing, aggregating, and interpreting the gathered data and giving well founded recommendations based on the findings. • writing a scientific report that includes the literature background as well as the development of their methods, their results, conclusions and recommendations.
Personal Competence	
Social Competence	Students are able to... • assess possible consequences of their own decisions. • define required tasks to find a solution for a given problem. • make elaborated decisions in an real-world innovation context. • assess their own performance in a team.
Autonomy	The work in teams over an entire semester and the interaction with professionals, experts and project partners outside the unviersity will support the students in their competenece to access the required information that is needed for making well-founded decisions with a high level of trust in the own capabilties.
Workload in Hours	Independent Study Time 124, Study Time in Lecture 56
Credit points	6
Course achievement	None
Examination	Subject theoretical and practical work
Examination duration and scale	approx. 40 pages written elaboration, presentation, oral participation
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Core Qualification: Compulsory

Course L2427: Seminar Innovation Marketing (GTIME)

Typ	Project Seminar
Hrs/wk	4
CP	6
Workload in Hours	Independent Study Time 124, Study Time in Lecture 56
Lecturer	Prof. Christian Lüthje, Prof. Jan-Paul Lüdtke, Prof. Michael Fretschner
Language	EN
Cycle	WiSe
Content	**General description of course content and course goals** The aim of the course is to give students an insight into the practice of technology exploitation and innovation marketing. The technologies and product concepts are provided by so called idea providers. These idea providers may be, among others, researchers at universities and project teams working in research institutions with a technical invention or (prospective) entrepreneurs with a business idea. Within the course the student teams will analyze the market potential of technology-based inventions or business ideas. They will define potential target customers in the market. Another important question to answer is, whether the market is still receptive for a given invention, or whether competitors have already exploited the full market potential. Finally, the student teams will also develop first ideas for the design of the marketing mix and write a report that is also handed to the idea providers. **Summarizing the most important contents**

	The students will find answers to the following fundamental questions: • What are the key features of the invention? • What is the unique selling point? • What is the most attractive application field? • Who are the target customers? • What are their needs and how can they be met? • What is the market potential of innovations? • What resources are necessary to exploit this market potential? • How can/should they enter the market? **Professional Competence** **Knowledge** Students can... • understand the process and the tools of market analysis for innovations (e.g. market potential, market growth, market segmentation) • explain the concepts of target customers, market definition and market growth • select the appropriate approach for leading a competitive analysis • explain the key market-related issues (strengths and weaknesses) of technology-based business opportunities **Skills** Students are capable of... • analyzing the market potential of inventions and innovative business ideas by using appropriate methods. • investigating whether a market is still open for a given innovation and develop a first concept for the market entry strategy and the marketing mix. • searching for relevant information (primary and secondary market data). • analyzing, aggregating, and interpreting the gathered data and giving well founded recommendations based on the findings. • writing a scientific report that includes the literature background as well as the development of their methods, their results, conclusions and recommendations. **Personal Competence** **Social Competence** Students can... • provide appropriate feedback and handle feedback on their own performance constructively. • enter into a dialogue with formerly unknown fellow students, participate in discussions, and present well-grounded arguments. • constructively interact with their team members and lead team sessions and group work processes. • develop joint solutions and come to decisions in mixed teams and present the results to others. **Self-Reliance** Students are able to... • assess possible consequences of their own decisions. • define required tasks to find a solution for a given problem. • make elaborated decisions in an real-world innovation context. • assess their own performance in a team.
Literature	Gruber, Marc, Ian C. MacMillan, and James D. Thompson (2008), “Look Before You Leap: Market Opportunity Identification in Emerging Technology Firms,” Management Science, 54 (September), 1652-1665. Danneels, Erwin (2007), “The Process of Technological Competence Leveraging,” Strategic Management Journal, 28 (February), 511-533

Module M0855: Marketing (Sales and Services / Innovation Marketing)

Courses

Title	Typ	Hrs/wk	CP
Marketing of Innovations (L2009)	Lecture	4	4
PBL Marketing of Innovations (L0862)	Project-/problem-based Learning	1	2

Module Responsible	Prof. Christian Lüthje
Admission Requirements	None
Recommended Previous Knowledge	• Module International Business • Basic understanding of business administration principles (strategic planning, decision theory, project management, international business) • Bachelor-level Marketing Knowledge (Marketing Instruments, Market and Competitor Strategies, Basics of Buying Behavior) • Unerstanding the differences beweetn B2B and B2C marketing • Understanding of the importance of managing innovation in global industrial markets • Good English proficiency; presentation skills
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	Students will have gained a deep understanding of • Specific characteristics in the marketing of innovative poroducts and services • Approaches for analyzing the current market situation and the future market development • The gathering of information about future customer needs and requirements • Concepts and approaches to integrate lead users and their needs into product and service development processes • Approaches and tools for ensuring customer-orientation in the development of new products and innovative services • Marketing mix elements that take into consideration the specific requirements and challenges of innovative products and services • Pricing methods for new products and services • The organization of complex sales forces and personal selling • Communication concepts and instruments for new products and services
Skills	Based on the acquired knowledge students will be able to: • Design and to evaluate decisions regarding marketing and innovation strategies • Analyze markets by applying market and technology portfolios • Conduct forecasts and develop compelling scenarios as a basis for strategic planning • Translate customer needs into concepts, prototypes and marketable offers and successfully apply advanced methods for customer-oriented product and service development • Use adequate methods to foster efficient diffusion of innovative products and services • Choose suitable pricing strategies and communication activities for innovations • Make strategic sales decisions for products and services (i.e. selection of sales channels) • Apply methods of sales force management (i.e. customer value analysis)
Personal Competence	
Social Competence	The students will be able to • have fruitful discussions and exchange arguments • develop original results in a group • present results in a clear and concise way • carry out respectful team work
Autonomy	The students will be able to • Acquire knowledge independently in the specific context and to map this knowledge on other new complex problem fields. • Consider proposed business actions in the field of marketing and reflect on them.
Workload in Hours	Independent Study Time 110, Study Time in Lecture 70
Credit points	6
Course achievement	None
Examination	Subject theoretical and practical work
Examination duration and scale	Written elaboration, excercises, presentation, oral participation
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Core Qualification: Compulsory International Management and Engineering: Specialisation I. Electives Management: Elective Compulsory Mechanical Engineering and Management: Specialisation Management: Elective Compulsory Biomedical Engineering: Specialisation Artificial Organs and Regenerative Medicine: Elective Compulsory Biomedical Engineering: Specialisation Implants and Endoprostheses: Elective Compulsory Biomedical Engineering: Specialisation Medical Technology and Control Theory: Elective Compulsory Biomedical Engineering: Specialisation Management and Business Administration: Compulsory

Course L2009: Marketing of Innovations	
Typ	Lecture
Hrs/wk	4
CP	4
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Lecturer	Prof. Christian Lüthje
Language	EN
Cycle	SoSe
Content	I. Introduction • Innovation and service marketing (importance of innovative products and services, model, objectives and examples of innovation marketing, characteristics of services, challenges of service marketing) II. Methods and approaches of strategic marketing planning • patterns of industrial development, patent and technology portfolios III. Strategic foresight and scenario analysis • objectives and challenges of strategic foresight, scenario analysis, Delphi method IV. User innovations • Role of users in the innovation process, user communities, user innovation toolkits, lead users analysis V. Customer-oriented Product and Service Engineering • Conjoint Analysis, Kano, QFD, Morphological Analysis, Blueprinting VII. Pricing • Basics of Pricing, Value-based pricing, Pricing models VIII. Sales Management • Basics of Sales Management, Assessing Customer Value, Planning Customer Visits IX. Communications • Diffusion of Innovations, Communication Objectives, Communication Instruments
Literature	**Mohr, J., Sengupta, S., Slater, S. (2014). Marketing of high-technology products and innovations, third edition, Pearson education. ISBN-10: 1292040335 . Chapter 6 (188-210), Chapter 7 (227-256), Chapter 10 (352-365), Chapter 12 (419-426).** Crawford, M., Di Benedetto, A. (2008). New products management, 9th edition, McGrw Hill, Boston et al., 2008 Christensen, C. M. (1997). Innovator's Dilemma: When New Technologies Cause Great Firms to Fail, Harvard Business Press, Chapter 1: How can great firms fail?,pp. 3-24. Hair, J. F., Bush, R. P., Ortinau, D. J. (2009). Marketing research. 4th edition, Boston et al., McGraw Hill Tidd; J. & Hull, Frank M. (Editors) (2007) Service Innovation, London Von Hippel, E.(2005). Democratizing Innovation, Cambridge: MIT Press

Course L0862: PBL Marketing of Innovations	
Typ	Project-/problem-based Learning
Hrs/wk	1
CP	2
Workload in Hours	Independent Study Time 46, Study Time in Lecture 14
Lecturer	Prof. Christian Lüthje
Language	EN
Cycle	SoSe
Content	This PBL course is seggregated into two afternoon sessions. This cours aims at enhancing the students' practical skills in (1) forecasting the future development of markets and (2) making appropriate market-related decisions (particularly segmentation, managing the marketing mix). The students will be prompted to use the knowledge gathered in the lecture of this module and will be invited to (1) Conduct a scenario analysis for an innovative product category and (2) Engage in decision making wtihin a market simulation game.
Literature	

Module M1358: Global Innovation Management

Courses

Title	Typ	Hrs/wk	CP
Managing Global Innovation (L1933)	Lecture	3	3
Managing Global Innovation - Seminar (L1934)	Seminar	2	3

Module Responsible	Dr. Stephan Buse
Admission Requirements	None
Recommended Previous Knowledge	Basic knowledge of innovation management and globalisation
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	Students learn about economic theories and models that underlie innovation management in an increasingly globalized world. Particular attention is paid to emerging countries such as India and China, but also to other countries in Africa, Asia and South America, as they are becoming increasingly important as innovation locations and sales markets in global economic competition. The following theories/models will be dealt with in the modules/ sessions: • Lead Market Theory • Frugal Innovations • Open Innovation Approach • Transnational Model • Internationalisation of Research & Development
Skills	By means of the theories and models discussed, students are enabled to analyse the significance and effects of globalisation from an economic as well as a business perspective. Furthermore, they learn to assess the competitiveness of entrepreneurial innovation strategies and innovation locations.
Personal Competence	
Social Competence	After successful completion of the module, students can work together purposefully and respectfully in (inter)national teams. In addition, they can conduct subject-specific discussions on issues of global innovation management and present and represent the results of their work in accordance with the requirements of the professional world.
Autonomy	Upon successful completion of the module, students can conduct case studies on global innovation management issues independently and/or as part of a team. They are able to independently select and apply adequate analysis tools and to reflect their analysis results self-critically.
Workload in Hours	Independent Study Time 110, Study Time in Lecture 70
Credit points	6
Course achievement	None
Examination	Written exam
Examination duration and scale	90 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Core Qualification: Compulsory

Course L1933: Managing Global Innovation	
Typ	Lecture
Hrs/wk	3
CP	3
Workload in Hours	Independent Study Time 48, Study Time in Lecture 42
Lecturer	Dr. Stephan Buse, Prof. Dr. habil. Rajnish Tiwari
Language	EN
Cycle	SoSe
Content	Students learn about economic theories and models that underlie innovation management in an increasingly globalized world. Particular attention is paid to emerging countries such as India and China, but also to other countries in Africa, Asia and South America, as they are becoming increasingly important as innovation locations and sales markets in global economic competition. In the problem-oriented course, the following theories/models will be dealt with: - Lead Market Theory - Frugal Innovations - Open Innovation Approach - Transnational Model - Internationalization of Research & Development By means of the theories and models discussed, students are enabled to analyse the significance and effects of globalisation from an economic as well as a business perspective. Furthermore, they learn to assess the competitiveness of entrepreneurial innovation strategies and innovation locations.
Literature	• Bartlett, C. A. and S. Ghoshal (1998). Managing across Borders: The Transnational Solution. Boston, Harvard Business School Press. • Bartlett, C. A. and S. Ghoshal (1990). Managing innovation in the transnational corporation. Managing the Global Firm. C. A. Bartlett, Y. L. Doz and G. Hedlund. London, Routledge: 215-255. • Chesbrough, H. (2003). Open Innovation: The New Imperative for Creating and Profiting from Technology. Boston, Harvard Business School Press. • Christensen, C. M. and M. E. Raynor (2003). The innovator's solution: creating and sustaining successful growth. Boston, MA, Harvard Business School Press. • Herstatt, C. and R. Tiwari, Eds. (2017). Lead Market India: Key Elements and Corporate Perspectives for Frugal Innovations. Heidelberg, Springer. • Herstatt, C., R. Tiwari and S. Buse (2017). Innovating for Emerging Markets? An Assessment of German Hidden Champions' Strategies. Technologie, Strategie und Organisation. W. Burr and M. Stephan. Wiesbaden, Springer Gabler: 219-238. • Tiwari, R. and C. Herstatt (2014). Aiming Big with Small Cars: Emergence of a Lead Market in India. Heidelberg, Springer.

Course L1934: Managing Global Innovation - Seminar	
Typ	Seminar
Hrs/wk	2
CP	3
Workload in Hours	Independent Study Time 62, Study Time in Lecture 28
Lecturer	Dr. Stephan Buse, Prof. Dr. habil. Rajnish Tiwari
Language	EN
Cycle	SoSe
Content	The seminar "Management of Global Innovations" serves the deepening and practice-oriented application of the teaching material conveyed in the problem-oriented course of the same name. Students work in groups on questions of global innovation management. Consequently, participation in the seminar requires participation in the problem-oriented course of the same name.
Literature	Die Grundlagenliteratur ist deckungsgleich zu der gleichnamigen Vorlesungsliteratur. Hinzukommt themenspezifische Fachliteratur bezüglich der zu behandelnden Fragestellungen. The basic literature is congruent with the lecture literature of the same name. In addition, there are subject-specific specialist literature relating to the questions to be dealt with.

Module M1034: Technology Entrepreneuship

Courses

Title	Typ	Hrs/wk	CP
Creation of Business Opportunities (L1280)	Project-/problem-based Learning	3	4
Entrepreneurship (L1279)	Lecture	2	2

Module Responsible	Prof. Christoph Ihl
Admission Requirements	None
Recommended Previous Knowledge	Basic knowledge in business economics obtained in the compulsory modules as well as an interest in new technologies and the pursuit of new business opportunities either in corporate or startup contexts.
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	Wissen (subject-related knowledge and understanding): • develop a working knowledge and understanding of the entrepreneurial perspective • understand the difference between a good idea and scalable business opportunity • understand the process of taking a technology idea and finding a high-potential commercial opportunity • understand the components of business models • understand the components of business opportunity assessment and business plans
Skills	• Fertigkeiten (subject-related skills): ◦ identify and define business opportunities ◦ assess and validate entrepreneurial opportunities ◦ create and verify a business model of how to sell and market an entrepreneurial opportunity ◦ formulate and test business model assumptions and hypotheses ◦ conduct customer and expert interviews regarding business opportunities ◦ prepare business opportunity assessment ◦ create and verify a plan for gathering resources such as talent and capital ◦ pitch a business opportunity to your classmates and the teaching team
Personal Competence	
Social Competence	Sozialkompetenz (Social Competence): • team work • communication and presentation • give and take critical comments • engaging in fruitful discussions
Autonomy	Selbständigkeit (Autonomy): • autonomous work and time management • project management • analytical skills
Workload in Hours	Independent Study Time 110, Study Time in Lecture 70
Credit points	6
Course achievement	None
Examination	Subject theoretical and practical work
Examination duration and scale	Three presentations on the respective project status
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Core Qualification: Elective Compulsory International Management and Engineering: Specialisation I. Electives Management: Elective Compulsory Logistics, Infrastructure and Mobility: Core Qualification: Elective Compulsory Mechanical Engineering and Management: Specialisation Management: Elective Compulsory

Course L1280: Creation of Business Opportunities	
Typ	Project-/problem-based Learning
Hrs/wk	3
CP	4
Workload in Hours	Independent Study Time 78, Study Time in Lecture 42
Lecturer	Prof. Christoph Ihl, Dr. Hannes Lampe
Language	EN
Cycle	SoSe
Content	Important note: This course is part of an 6 ECTS module consisting of two courses "Entrepreneurship" & "Creation of Business Opportunities", which have to be taken together in one semester. Startups are temporary, team-based organizations, which can form both within and outside of established companies, to pursue one central objective: taking a new venture idea to market by designing a business model that can be scaled to a full-grown company. In this course, students will form startup teams around self-selected ideas and run through the process just like real startups would do in the first three months of intensive work. Startup Engineering takes an incremental and iterative approach, in that it favors variety and alternatives over one detailed, linear five-year business plan to reach steady state operations. From a problem solving and systems thinking perspective, student teams create different possible versions of a new venture and alternative hypotheses about value creation for customers and value capture vis-à-vis competitors. We will draw on recent scientific findings about international success factors of new venture design. To test critical hypotheses early on, student teams engage in scientific, evidence-based, experimental trial-and-error learning process that measures real progress. Upon completion of this course, students will be able to: · Apply a modern innovation toolkit relevant in both the corporate & startup world · Analyze given business opportunities in terms of its constituent elements · Design new business models by gathering and combining relevant ideas, facts and information · Evaluate business opportunities and derive judgment about next steps & decisions Course language is English, but participants can decide to give their graded presentations in German. Students are invited to apply to this course module already with a startup idea and/ or team, but this is not a requirement! We will form teams and ideas in the beginning of the course. Class meetings have alternate intervals of lecture inputs, teamwork, mentoring, and peer feedback. Attendance is mandatory for at least 80% of class time due to large proportion of teamwork sessions. Student teams give three presentations and submit them with backup analyses. Grading scheme: · Startup discovery presentation after 5 weeks: 30% · Startup validation presentation after 10 weeks: 30% · Final startup pitches after 13 weeks: 40%
Literature	• Blank, S. & Dorf, B. (2012). The startup owner's manual. • Gans, J. & Stern, S. (2016). Entrepreneurial Strategy. • Osterwalder, A. & Yves, P. (2010). Business model generation. • Maurya, A. (2012). Running lean: Iterate from plan A to a plan that works. • Maurya, A. (2016). Scaling lean: Mastering the Key Metrics for Startup Growth. • Wilcox, J. (2016). FOCUS Framework: How to Find Product-Market Fit.

Course L1279: Entrepreneurship	
Typ	Lecture
Hrs/wk	2
CP	2
Workload in Hours	Independent Study Time 32, Study Time in Lecture 28
Lecturer	Prof. Christoph Ihl
Language	EN
Cycle	SoSe
Content	Important note: This course is part of an 6 ECTS module consisting of two courses "Entrepreneurship" & "Creation of Business Opportunities", which have to be taken together in one semester. Startups are temporary, team-based organizations, which can form both within and outside of established companies, to pursue one central objective: taking a new venture idea to market by designing a business model that can be scaled to a full-grown company. In this course, students will form startup teams around self-selected ideas and run through the process just like real startups would do in the first three months of intensive work. Startup Engineering takes an incremental and iterative approach, in that it favors variety and alternatives over one detailed, linear five-year business plan to reach steady state operations. From a problem solving and systems thinking perspective, student teams create different possible versions of a new venture and alternative hypotheses about value creation for customers and value capture vis-à-vis competitors. We will draw on recent scientific findings about international success factors of new venture design. To test critical hypotheses early on, student teams engage in scientific, evidence-based, experimental trial-and-error learning process that measures real progress. Upon completion of this course, students will be able to: · Apply a modern innovation toolkit relevant in both the corporate & startup world · Analyze given business opportunities in terms of its constituent elements · Design new business models by gathering and combining relevant ideas, facts and information · Evaluate business opportunities and derive judgment about next steps & decisions Course language is English, but participants can decide to give their graded presentations in German. Students are invited to apply to this course module already with a startup idea and/ or team, but this is not a requirement! We will form teams and ideas in the beginning of the course. Class meetings have alternate intervals of lecture inputs, teamwork, mentoring, and peer feedback. Attendance is mandatory for at least 80% of class time due to large proportion of teamwork sessions. Student teams give three presentations and submit them with backup analyses. Grading scheme: · Startup discovery presentation after 5 weeks: 30% · Startup validation presentation after 10 weeks: 30% · Final startup pitches after 13 weeks: 40%
Literature	• Blank, S. & Dorf, B. (2012). The startup owner's manual. • Gans, J. & Stern, S. (2016). Entrepreneurial Strategy. • Osterwalder, A. & Yves, P. (2010). Business model generation. • Maurya, A. (2012). Running lean: Iterate from plan A to a plan that works. • Maurya, A. (2016). Scaling lean: Mastering the Key Metrics for Startup Growth. • Wilcox, J. (2016). FOCUS Framework: How to Find Product-Market Fit.

Module M1381: Agile Design Methods

Courses

Title	Typ	Hrs/wk	CP
Agile Design Methods (L1962)	Project Seminar	3	3
Agile Design Methods (L2294)	Lecture	2	3

Module Responsible	Dr. Stephan Buse
Admission Requirements	None
Recommended Previous Knowledge	None
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	The students know: • Different methods from the field of design management and can explain them and their importance for agile project management. • The distinction between linear and integrative design methods. • Appropriate software for supporting the process. • The interrelation between working culture and applied design methods. • The theoretical construct behind human-centered design and its diverse methodologies. • The difference between high and low resolution prototyping and software to realize digital Prototyps.
Skills	The students are able: • to decide on an appropriate method to approach an innovation project. They recognize the difference between agile and iterate of methodologies and water fall project management. • They apply the relevant methods for the fuzzy front end (e.g. Design Thinking) or the implementation of an idea in agile teams (e.g. Scrum). • to self-moderate the Design Thinking process in their team. • to use appropriate methods to create a common understanding and across departmental teams. • **They carry out a synthases of the use and eight through appropriate methods e.g. personas.** • to use creativity methods for idea generation such as different brainstorming methods. • to construct appropriate prototypes to test the critical function of the idea. • to apply appropriate software for supporting the process.
Personal Competence	
Social Competence	The students are able: • to work successfully and respectfully in a multicultural team. • to reach the expected results within their team and to document them. • to engage in scientific and practitioner discussions on the topic of innovation- specifically design management. • to present the results of the work to others in an understandable and catchy way.
Autonomy	The students are able: • to carry out an innovation process for any given challenge independently, individually or in a team. • to solve complex problems independently or in a team, selecting and using appropriate analog design methods and software. • to gather knowledge regarding a challenge independently and apply their knowledge in problem-solving. • to critically reflect on the results of the work and their own behavior in the team.
Workload in Hours	Independent Study Time 110, Study Time in Lecture 70
Credit points	6
Course achievement	None
Examination	Written elaboration
Examination duration and scale	Written Assignment
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Core Qualification: Elective Compulsory

Course L1962: Agile Design Methods	
Typ	Project Seminar
Hrs/wk	3
CP	3
Workload in Hours	Independent Study Time 48, Study Time in Lecture 42
Lecturer	Dr. Stephan Buse, Dr. Daniel Jarr
Language	EN
Cycle	SoSe
Content	The core of this projectseminar is the systematical and method - based development of individual design method skills. The course is divided into two sections: 1.) theoretical input on relevant methodologies and 2.) practical training and application of innovation methods. In the first events, basic knowledge and an overview of methodical approaches to innovation and creativity is given. In the subsequent groupwork phase, user needs are explored, solutions are developed and tested experimentally. Interim results are presented at regular intervals in the plenum. The ideas can be further developed from date to date on the basis of verified or falsified assumptions. Different design methodologies will be explained and set in context: Design Thinking, Scrum, Kanban, Simplicity, Appreciative Inquiry, Lean start-up, Business Model Canvas, Value Proposition Design. The didactical concept of the practice phase is problem-based learning. Therefore the methodological training will focus on design thinking applied to a real-world problem. In an iterative manner, the student teams go through all Design Thinking stages in a workshop style - starting from understand, to empathize, define, ideate, prototype and test, several times in projects. Agile design methods forster a new working paradim, a mindset of collaboration. The students will experience the connection between methodology and working culture and reflect on their personal develpoment on the one hand and the team dynamics on the other hand.
Literature	• "Design Thinking" (Tim Brown, 2008) • Change by Design (Tim Brown, 2008) • Creative Confidence (Kelley/Kelley, 2013) • Value Proposition Design (Osterwalder/Pigneur, 2014) • Business Model Canvas (Osterwalder/Pigneur, 2010) • The Lean Startup (Eric Ries, 2011) • This Is Service Design Thinking (Stickdorn/Schneider, 2012)

Course L2294: Agile Design Methods	
Typ	Lecture
Hrs/wk	2
CP	3
Workload in Hours	Independent Study Time 62, Study Time in Lecture 28
Lecturer	Dr. Stephan Buse, Dr. Daniel Jarr
Language	EN
Cycle	SoSe
Content	See interlocking course
Literature	See interlocking course

Module M1360: Sustainable Innovation Management

Courses

Title	Typ	Hrs/wk	CP
Sustainable Innovation Management (L1937)	Lecture	4	3
Sustainable Innovation Management -Seminar (L1938)	Project-/problem-based Learning	3	3

Module Responsible	Prof. Cornelius Herstatt
Admission Requirements	None
Recommended Previous Knowledge	Basic knowledge in business administration
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence *Knowledge* *Skills* **Personal Competence** *Social Competence* *Autonomy*	
Workload in Hours	Independent Study Time 82, Study Time in Lecture 98
Credit points	6
Course achievement	None
Examination	Written exam
Examination duration and scale	90 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Core Qualification: Compulsory

Course L1937: Sustainable Innovation Management

Typ	Lecture
Hrs/wk	4
CP	3
Workload in Hours	Independent Study Time 34, Study Time in Lecture 56
Lecturer	Prof. Cornelius Herstatt
Language	EN
Cycle	SoSe
Content	The course aims to equip students with an understanding of key issues in the management of innovation and an appreciation of the relevant skills needed to manage innovation at both strategic and operational levels. It provides evidence of different approaches based on leading research, real world examples and experiences of firms and organizations from around the world. The management of innovation is one of the most important and challenging aspects of modern organization. Innovation is a fundamental driver of competitiveness and it plays a large part in improving quality of life. Innovation, and particularly technological innovation, is inherently difficult, uncertain and risky, and most new technologies fail to be translated into successful products and services. Given this, it is essential that students understand the strategies, tools and techniques for managing innovation, which often requires a different set of management knowledge and skills from those employed in everyday business administration. The course itself draws upon research activities of the Institute for Technology and Innovation Management at the TUHH (www.tuhh.de/tim) Lecture Topics: • The Management of (Technological) Innovation • Strategy and Organization for Innovation • Managing the Innovation Process • Innovation in the Age of Circular Economy (C2C) • Market-Research for Innovation and Design-thinking • Capturing value from R&D, Open Innovation and IP • Creativity and mindfulness in Innovation
Literature	LITERATURE Dodgson, M. Gann, D. and Salter A. The management of technological innovation: strategy and practice, Oxford University Press, 2008. Tidd, J., Bessant, J. and Pavitt, K.: Managing Innovation: Integrating technological, market and organizational change, 5 th edition, John Wiley and Sons, 2013. Goffin, K., Mitchell, R.: Innovation Management: Effective strategy and implementation Paperback, 3rd edition, 15. November 2016

Course L1938: Sustainable Innovation Management -Seminar	
Typ	Project-/problem-based Learning
Hrs/wk	3
CP	3
Workload in Hours	Independent Study Time 48, Study Time in Lecture 42
Lecturer	Prof. Cornelius Herstatt
Language	EN
Cycle	SoSe
Content	The seminar "Management of Innovations" provides a practice-oriented application of the teaching material conveyed in the lecture "Management of Innovations". Students work in groups on selected topics of innovation management. Consequently, participation in the seminar requires participation in the lecture.
Literature	Die Grundlagenliteratur ist deckungsgleich zu der gleichnamigen Vorlesungsliteratur. Hinzu kommt themenspezifische Fachliteratur bezüglich der zu behandelnden Fragestellungen.

Specialization Global Design Management (UoS)

The Global Design Management specialisation taught during the second year of the GTIME programme in Glasgow focuses on enabling the systematic role of design in linking creativity to innovation throughout the product development process; from conceptualisation through production and delivery to the market place. The programme aims to develop graduates with management capability who can deploy well-coordinated global product development strategies, operations and projects towards innovation within contemporary industrial settings. Graduates will understand design in innovation as a rigorous engineering process through which innovation can be driven and realised in a competitive global economy, and as a human centred approach that can discover latent societal needs and problems and develop solutions that are sensitive to the needs of all stakeholders.

Different modules introduce the students to key concepts within complex innovative design processes and management approaches, management of globally distributed creative teams at partner universities and the Postgraduate Group Project places student teams to work with an industrial client on a real world solution to client's prioritised brief. Students may integrate and apply design, manufacturing and operations management knowledge and skills to an industry based product and process development project and further develop project management skills. The latter half of the second year at the University of Strathclyde is characterised by the Global Research Project as an individual research project for which the student develops a relevant study topic of interest then executes, documents and presents critical research findings.

These taught and project based modules are supplemented by 2 modules chosen by the students from an approved list of optional modules. These include human centred design, design aesthetics, design methods, sustainable design and remanufacturing, product costing and financial management, quality management and lean six sigma, technology and innovation management, systems thinking, supply chain management and enterprise resource planning.

Module M1386: Global Design (UoS)

Courses

Title	Typ	Hrs/wk	CP
Global Design (UoS) (L1965)	Lecture	5	5

Module Responsible	Dr. Andrew Wodehouse
Admission Requirements	None
Recommended Previous Knowledge	None
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	- Demonstrate knowledge and understanding of the nature of distributed design. - Demonstrate knowledge and understanding of the management of distributed design projects. - Demonstrate knowledge and understanding of how technology can effectively support distributed design activity.
Skills	Explain the concepts of distributed design engineering. Discuss how the benefits and issues related to distributed design compare to those of co-located design. Describe management tools and techniques for successfully managing distributed design. Apply these tools and techniques to carry out distributed design project work. Show how these tools and techniques can overcome issues relating to distributed design. Describe appropriate technology and how it can be used to support distributed design. Apply the use of technology to successfully carry out distributed design project work. Show how appropriate technology can be used to overcome issues relating to distributed design.
Personal Competence	
Social Competence	Teamwork: virtually; collocated; synchronous and asynchronous
Autonomy	Literature searching, gathering, analysis Literature review Presentation skills
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Subject theoretical and practical work
Examination duration and scale	Examination at University of Strathclyde
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Global Design Management (UoS): Compulsory

Course L1965: Global Design (UoS)	
Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	Dr. Andrew Wodehouse
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1385: Design Management (UoS)

Courses

Title	Typ	Hrs/wk	CP
Design Management (UoS) (L1964)	Lecture	5	5

Module Responsible	Prof. Alex Duffy
Admission Requirements	None
Recommended Previous Knowledge	None
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	1. Appreciate and understand the role of design within an organisation and the organisational structures required for effective design. 2. Appreciate the role of design models, approaches and methods. 3. Know a variety of aspects and the complexities of design development. 4. Appreciate the role of innovation in design and know how to measure design performance.
Skills	Ability to articulate the impact of early product delivery with regards to quality, cost and market sales. Describe the different main organisational structures and their impact on the design activity. Articulation of the different types of design models, approaches and methods. Appreciation of the different strengths and weaknesses of models, approaches and methods. Able to describe multiple aspects of design development. Articulation of complexities in design development.
Personal Competence	
Social Competence	Teamwork
Autonomy	- Literature searching, gathering, analysis. - Problem synthesis. - Literature review writing. - Presentation skills.
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written elaboration
Examination duration and scale	Examination at University of Strathclyde
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Global Design Management (UoS): Compulsory

Course L1964: Design Management (UoS)

Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	Prof. Alex Duffy
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1387: Postgraduate Group Project (UoS)

Courses

Title	Typ	Hrs/wk	CP
Postgraduate Group Project (UoS) (L1966)	Project Seminar	20	20

Module Responsible	Dr. Anup Nair
Admission Requirements	None
Recommended Previous Knowledge	None
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	Demonstrate knowledge and understanding of the various elements associated with the respective course disciplines. Demonstrate knowledge and understanding of products and management practices in industry. Demonstrate knowledge and ability in applying and using various analysis and modelling tools and techniques in product and process realisation. Demonstrate project planning and management, data collection and analysis, presentation, consulting and team working skills.
Skills	Ability to describe and discuss course contents relevant to the particular project and the course theme. Critically review and evaluate products and management practices of the particular company. Critically review and evaluate analysis tools and modelling techniques. Discuss and critically evaluate the implementation of analysis tools and modelling techniques.
Personal Competence	
Social Competence	Teamwork, team leadership.
Autonomy	Ability to plan, control and lead an industrial project from inception to completion. Evidence of achieving deliverables which meet the client company requirements. Ability to work responsibly as part of a project team.
Workload in Hours	Independent Study Time 320, Study Time in Lecture 280
Credit points	20
Course achievement	None
Examination	Subject theoretical and practical work
Examination duration and scale	Examination at University of Strathclyde
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Global Design Management (UoS): Compulsory

Course L1966: Postgraduate Group Project (UoS)

Typ	Project Seminar
Hrs/wk	20
CP	20
Workload in Hours	Independent Study Time 320, Study Time in Lecture 280
Lecturer	Dr. Anup Nair
Language	EN
Cycle	WiSe
Content	
Literature	

Specialization Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU)

Business development through technology, innovation and entrepreneurship are the key competencies of the future in the global business arena, both in start-up companies, established private organisations and the public sector knowledge and service organisations. Finding new ways to create value is increasingly a condition for both private and public organisations.

Entrepreneurial Enginnering will teach you how to create, develop, and strengthen a business. You gain insight into methods and processes as well as organisational and management principles in relation to innovation and entrepreneurship in both new and established companies.

Get knowledge of:

- Idea generation, realization, and development
- Methods, processes, and principles for management and organisations to pursue innovation and entrepreneurship
- Business creation and development

Through the core subject of the programme, you specialise in corporate entrepreneurship and design processes, technological innovation management and applied business modeling, financial management and financing for entrepreneurs, marketing, and project management. Based on this, you can in semester projects choose to focus on either starting your own company or work with an already established company.

Through problem-based learning, you develop competencies to identify, analyse and present solutions to current and specific business challenges both individually and in teams. In this way, you build an educational profile that prepares you to take part in complex change processes and develop new solutions.

Module M1821: Semester Project incl. Executing Entrepreneurial Ideas (AAU)

Courses

Title	Typ	Hrs/wk	CP
Semester Project incl. Executing Entrepreneurial Ideas (AAU) (L3018)	Project Seminar	15	15

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	None
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	The objective is that the student after the module possesses the necessary knowledge on: • resources for entrepreneurial processes and strategy, including IPR strategy. • important framework conditions for entrepreneurs such as policy, business incubators and technology transfer offices. • core constructs of entrepreneurship of relevance to executing entrepreneurial ideas
Skills	The objective is that the student after the module possesses the necessary skills in: • planning business development and assessing the role of creativity in that. • giving a critical perspective on effective and efficient business planning. The objective is that the student after the module possesses the necessary competences in: • independently create, coordinate and execute a business plan. • developing novel recommendations for executing entrepreneurial ideas and promoting entrepreneurship.
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 240, Study Time in Lecture 210
Credit points	15
Course achievement	None
Examination	Oral exam
Examination duration and scale	40 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Compulsory

Course L3018: Semester Project incl. Executing Entrepreneurial Ideas (AAU)	
Typ	Project Seminar
Hrs/wk	15
CP	15
Workload in Hours	Independent Study Time 240, Study Time in Lecture 210
Lecturer	NN
Language	EN
Cycle	WiSe
Content	Both in an existing organisation and as an individual entrepreneur bringing innovative ideas into life requires planning, management, resources, competencies and environments conducive for taking the idea forward. This module provides an understanding of how to pursue opportunities but also on learning and practising this. The module adds an applied dimension to several entrepreneurship topics. While introducing a number of instruments for business planning the module also provides a critical perspective on business planning and on the rationale for promoting entrepreneurship. Moreover, the module introduces some of the most important framework conditions for university-based entrepreneurs. Finally, as 'There is nothing as practical as a good theory' we will also deal with some of the core theoretical issues in entrepreneurship.
Literature	

Module M1822: Management of Technological Innovation and Applied Business Modelling (AAU)

Courses

Title	Typ	Hrs/wk	CP
Management of Technological Innovation and Applied Business Modelling (AAU) (L3019)	Project Seminar	10	10

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	The objective is that the student after the module possesses the necessary knowledge on: • main concepts, definitions, theories and models related to management of technological innovation processes and business models. • theories on how contextual factors affect the innovation processes within firms. • how to distinguish between different business models and innovation types applied in different industries • and insights into the important role of change in organisations, and how firms should organise and manage such transition processes accordingly - both strategically and operationally.
Skills	SKILLS The objective is that the student after the module possesses the necessary skills in: • finding, accessing and assessing relevant data and information from databases and online sources on firms' innovation and business modelling activities • identifying the various challenges involved in innovation processes and making recommendations for handling these challenges. • analytically and critically arguing for the most suitable business model for a new business based on data collected through desk- and field research. • applying the business model as a strategic tool of communication within new business creation including reflecting upon different archetypes of business models and scenarios of business model prototyping COMPETENCES The objective is that the student after the module possesses the necessary competences in: • independently coordinating and conducting an analysis of innovation processes in a firm. • developing recommendations for innovation management and applied business modelling in different types of organisations from both an external and internal perspective. • being self-reflective, critical and open to different actors, competencies and constraints through a process of organisational transition and change.
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 160, Study Time in Lecture 140
Credit points	10
Course achievement	None
Examination	Oral exam
Examination duration and scale	40 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3019: Management of Technological Innovation and Applied Business Modelling (AAU)	
Typ	Project Seminar
Hrs/wk	10
CP	10
Workload in Hours	Independent Study Time 160, Study Time in Lecture 140
Lecturer	NN
Language	EN
Cycle	WiSe
Content	Facing intense competition, companies find themselves competing under ever-changing conditions. Those changes force companies to rethink, reorganize and innovate their business offerings and processes as well as change their business model in order to remain competitive. Therefore, management of technological innovation and applied business modelling has become a key challenge for firms. The purpose of the module is to give the students an insight in technological innovation management and applied business modelling, both as a descriptive discipline for existing business, and an innovation discipline for new business. In doing so, this module addresses fundamental issues, and introduces new ideas and theoretical perspectives, both as a descriptive discipline for existing business, and an innovation discipline for new business. We will take a look at the foundations and dynamics of technological innovation and business modelling as well as the implications for firms. This objective includes helping students in attaining better understanding, skills, and competences regarding the role of technology, innovation and change in business as well as the challenges available in, and solutions offered though, organizational transition and change processes. Throughout the module it is emphasised how an organisation, and changes in an organisation, can be understood in relationship with the context of business model innovation as well as technological innovation management. In addition, the module will illustrate ways in which managers could deal with some of these technological innovation and business modelling challenges. Prominence attention is given for providing the students with frameworks and methods that are both theoretically sound and practically useful.
Literature	

Module M1823: Corporate Entrepreneurship, Management and Technology (AAU)

Courses

Title	Typ	Hrs/wk	CP
Corporate Entrepreneurship, Management and Technology (AAU) (L3020)	Lecture	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	The objective is that the student after the module possesses the necessary knowledge on: • main concepts, models and frameworks related to corporate entrepreneurship, technology and innovation • the role and impact of corporate entrepreneurship, management and technology in organisations. • high-impact innovation processes and how to organize them in and around companies in interaction with relevant actors in the business environment.
Skills	The objective is that the student after the module possesses the necessary skills in: • identifying and analysing challenges of corporate entrepreneurship, management and technology in organizations. • identifying relevant external actors and networks to consider in pursuing corporate entrepreneurship. • choosing relevant theories, methods, and tools in analysing issues related to corporate entrepreneurship management and technology. The objective is that the student after the module possesses the necessary competences in: • auditing, evaluating and contributing to design of the innovative capabilities of an established organisation. • navigating in contexts of corporate entrepreneurship, management and technology given the complexity, politics and emergent nature of the processes. developing conceptual solutions to the challenges faced by established organisations when attempting to organise corporate entrepreneurship, management and technology.
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Oral exam
Examination duration and scale	40 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3020: Corporate Entrepreneurship, Management and Technology (AAU)

Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	In a rapidly changing world that we live in, it is utmost important for organisations to continuously develop new services, products, and business areas to survive and grow. In terms of creating changes through innovation and business development, established firms face challenges different from those that new firms face. In this module, we aim to understand the role and the processes of corporate entrepreneurship in established firms. We will also explore the external business context - local, national, global networks - that firms are a part of and interacting with, when pursuing innovation and business development. Furthermore, technological aspects of business development and innovation in established companies is explored both in product, process and business model innovation. The module covers both theoretical and practical insights through lectures, discussions and case assignments.
Literature	to be announced

Module M1824: Project Based Business Corporation I (AAU)

Courses

Title	Typ	Hrs/wk	CP
Project based Business Cooperation I (AAU) (L3021)	Project Seminar	10	10

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses the necessary knowledge on: • how organisations apply principles from the master programme discipline in practice. • practical issues within master programme issues. SKILLS The objective is that the student after the module possesses the necessary skills in: • applying relevant knowledge and skills in practice to identify and solve specific master programme - related task in collaboration with external partners. • critically thinking and reflecting on practice to connect theory and practice, including how principles from the master programme disciplines can be applied in practice. COMPETENCES The objective is that the student after the module possesses the necessary competences in: • converting practical experiences performed during the business cooperation into learning and new knowledge. • combining theory and practice to solve master programme-related tasks.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 160, Study Time in Lecture 140
Credit points	10
Course achievement	None
Examination	Oral exam
Examination duration and scale	40 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3021: Project based Business Cooperation I (AAU)

Typ	Project Seminar
Hrs/wk	10
CP	10
Workload in Hours	Independent Study Time 160, Study Time in Lecture 140
Lecturer	NN
Language	EN
Cycle	WiSe
Content	In this module the student will complete collaborative process with a Danish or foreign organisation. This allows students to gain a minimum of 240 hours of valuable work experience while studying. During the collaborative process, students will work on a specific project related to the master programme while working on identifying, exploring, analysing and reflecting on a master programme-related problem of their choice. The purpose of this module is to allow the student to acquire practical experience through working in an organisation with a specific project and bring their knowledge into play by trying out their theoretical and methodological competences in practice. The business cooperation will result in a written report, where the student explicates the knowledge, skills, and competencies acquired during the internship and combine it with contemporary knowledge acquired in the core modules of the master programme. A supervisor will be assigned to the student.
Literature	

Module M1825: Project Based Business Corporation II (AAU)

Courses

Title	Typ	Hrs/wk	CP
Project based Business Cooperation II (AAU) (L3024)	Project Seminar	15	15

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses the necessary knowledge on: • how organisations apply principles from the master programme discipline in practice. • practical issues within master programme issues. SKILLS The objective is that the student after the module possesses the necessary skills in: • applying relevant knowledge and skills in practice to identify and solve specific master programme - related task in collaboration with external partners. • critically thinking and reflecting on practice to connect theory and practice, including how principles from the master programme disciplines can be applied in practice. COMPETENCES The objective is that the student after the module possesses the necessary competences in: • converting practical experiences performed during the business cooperation into learning and new knowledge. • combining theory and practice to solve master programme-related tasks.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 240, Study Time in Lecture 210
Credit points	15
Course achievement	None
Examination	Oral exam
Examination duration and scale	40 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3024: Project based Business Cooperation II (AAU)

Typ	Project Seminar
Hrs/wk	15
CP	15
Workload in Hours	Independent Study Time 240, Study Time in Lecture 210
Lecturer	NN
Language	EN
Cycle	WiSe
Content	In this module the student will complete collaborative process with a Danish or foreign organisation. This allows students to gain a minimum of 240 hours of valuable work experience while studying. During the collaborative process, students will work on a specific project related to the master programme while working on identifying, exploring, analysing and reflecting on a master programme-related problem of their choice. The purpose of this module is to allow the student to acquire practical experience through working in an organisation with a specific project and bring their knowledge into play by trying out their theoretical and methodological competences in practice. The business cooperation will result in a written report, where the student explicates the knowledge, skills, and competencies acquired during the internship and combine it with contemporary knowledge acquired in the core modules of the master programme. A supervisor will be assigned to the student.
Literature	

Module M1826: Project Based Business Corporation III (AAU)

Courses

Title	Typ	Hrs/wk	CP
Project based Business Cooperation III (AAU) (L3025)	Project Seminar	20	20

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses the necessary knowledge on: • how organisations apply principles from the master programme discipline in practice. • practical issues within master programme issues. SKILLS The objective is that the student after the module possesses the necessary skills in: • applying relevant knowledge and skills in practice to identify and solve specific master programme - related task in collaboration with external partners. • critically thinking and reflecting on practice to connect theory and practice, including how principles from the master programme disciplines can be applied in practice. COMPETENCES The objective is that the student after the module possesses the necessary competences in: • converting practical experiences performed during the business cooperation into learning and new knowledge. • combining theory and practice to solve master programme-related tasks.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 320, Study Time in Lecture 280
Credit points	20
Course achievement	None
Examination	Oral exam
Examination duration and scale	40 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3025: Project based Business Cooperation III (AAU)

Typ	Project Seminar
Hrs/wk	20
CP	20
Workload in Hours	Independent Study Time 320, Study Time in Lecture 280
Lecturer	NN
Language	EN
Cycle	WiSe
Content	In this module the student will complete collaborative process with a Danish or foreign organisation. This allows students to gain a minimum of 240 hours of valuable work experience while studying. During the collaborative process, students will work on a specific project related to the master programme while working on identifying, exploring, analysing and reflecting on a master programme-related problem of their choice. The purpose of this module is to allow the student to acquire practical experience through working in an organisation with a specific project and bring their knowledge into play by trying out their theoretical and methodological competences in practice. The business cooperation will result in a written report, where the student explicates the knowledge, skills, and competencies acquired during the internship and combine it with contemporary knowledge acquired in the core modules of the master programme. A supervisor will be assigned to the student.
Literature	

Module M1827: Business Design and Sustainability (AAU)

Courses

Title	Typ	Hrs/wk	CP
Business Design and Sustainability (AAU) (L3022)	Lecture	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses the necessary knowledge on: • the theoretical fundamentals of the functioning of markets in relationship to entrepreneurship and sustainability. • key methods and processes for business design both in theory and practice. • theoretical and practical methods and approaches to navigating patterns for sustainbale business design, for example problem solving approach and opportunity exploration approach. SKILLS The objective is that the student after the module possesses the necessary skills in: • planning and organizing to assess risks and opportunities related to sustainbale technologies and ideas. • analytically and critically relating to market barriers of sustainability and apply relevant knowledge to envision solutions to them. COMPETENCES The objective is that the student after the module possesses the necessary competences in: • applying relevant knowledge and abilities to generalise, abstract and build understanding of key issues within Business Design and Sustainability. • independently conducting ongoing analyses, adapting and possibly developing new solutions for key business design and sustainability issues as the complexity increases. translating the knowledge and abilities necessary in order to be part of processes related to business design and sustainability on an academic, interdisciplinary and professional basis.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Oral exam
Examination duration and scale	20 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3022: Business Design and Sustainability (AAU)	
Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	Business - particularly entrepreneurial start-ups working with innovative technologies - has a vital contribution to make to sustainable development. The idea is that entrepreneurial start-ups are a very powerful and agile innovation engine. And this potential for innovation can be used to turn sustainability challenges into opportunities for profits. However, and despite their critical importance, new sustainable technologies or even new scientific discoveries and ideas, by themselves, are not sufficient. Generally speaking, unregulated markets are quite inefficient in valuing environmental and social value creation. As a consequence, the rewards for addressing environmental or social problems with novel technologies or solutions are often ambiguous, a fact that makes it difficult to turn sustainable technologies and the products and services based on them in opportunities for profits. To be able to reach their full potential to contribute solving sustainabiltiy challenges, new technologies as well as the as the products and services developed on them, require to be brought to markets with appropriate business models, namely sustainable business models. Designing sustainable business models is not, in itself, easy. First of all it requires to become familiar with the main tools, the governing ideas, and the methods for the design of business. These include, among others, the iterative processes that entrepreneurs and innovators need to diligently manage uncertainty and proceed towards finding scalable and repeatable business models. It also involves understanding what are market-based barriers to sustainability and acquire the knowledge relative to how innovative business models design can support overcoming such barriers. Building on these premises, this elective module offers participants to learn how to systematically analyse risks and opportunities related to sustainable technologies, scientific discoveries and ideas that can solve social and environmental problems and how to design sustainable business models for them.
Literature	

Module M1828: Business Design (AAU)

Courses

Title	Typ	Hrs/wk	CP
Business Design (AAU) (L3023)	Lecture	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	The objective is that the student after the module possesses the necessary knowledge on: • key theoretical approaches to business design in an open organisational context, being capable of reflecting on the modification of business models on a scientific basis. • key methodical approaches to study and modify business models from both a theoretical and a practical perspective. • key theoretical aspects of collaboration and partnerships in an open organisational context. Skills The objective is that the student after the module possesses the necessary skills in: • selecting and applying relevant methods and tools in order to generate knowledge and analyse key issues within business design. • argueing both theoretically and practically for opportunities and limitations within business design in an open organisational context. • presenting and discussing professional and scientific issues within business design with different target groups. Competences The objective is that the student after the module possesses the necessary competences in: • applying relevant knowledge and abilities to generalise, abstract and build understanding of key issues within business design. • independently conducting ongoing analyses, adapting and possibly developing new solutions for key business design issues as the complexity increases. translating the knowledge and abilities necessary in order to be part of processes related to business design on an academic, interdisciplinary and professional basis.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Oral exam
Examination duration and scale	20 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3023: Business Design (AAU)

Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	Business design includes an introduction to classic business design concepts with specific focus on developing and implementing business models in existing companies across industries. The student will be introduced to organisational issues through the development and modification of business models and will work with innovation of business models in practice. The point of departure will be new contextual challenges for business design. The development of business models is discussed in relation to existing business context, ecosystems and networks, with focus on the way in which business models develop across organisational boundaries and how this process is supported by collaboration and partnership.
Literature	

Module M1829: Sustainability and Non-Market Strategy (AAU)

Courses

Title	Typ	Hrs/wk	CP
Sustainability and Non-Market Strategy (AAU) (L3026)	Lecture	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses the necessary knowledge on: • central theoretical and practical approaches to corporate social responsibility (CSR). • how firms integrate sustainability strategies to maximize social, environmental, and economic value. • defining and exemplifying the roles of different actors such as government, non-government organisations, international organisations, and businesses in responding to sustainability challenges. SKILLS The objective is that the student after the module possesses the necessary skills in: • applying digital tools to analyse sustainability metrics and firm outcomes related to issues of sustainability. • understanding, evaluating, and synthesising conflicting arguments for and against corporate social responsibility (CSR). • independently identifying and addressing issues of sustainability, keeping in mind economic, social and ecological concerns. COMPETENCES The objective is that the student after the module possesses the necessary competences in: • taking a problem-based approach to explore central challenges within sustainability and non-market strategy. • applying critical and reflexive thinking skills useful to analyse and identify sustainability challenges and opportunities integrating knowledge from management theory and issues of sustainability for problem solving in real world challenges of sustainability.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written elaboration
Examination duration and scale	Examination at Aalborg University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3026: Sustainability and Non-Market Strategy (AAU)	
Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	As the role of business becomes increasingly important in the fight against climate change, the module on Sustainability and Non-market Strategy aims to highlight the importance of sustainability in business. Students in this module will evaluate 1) the various drivers behind sustainability such as cost savings, growth opportunities, innovation, differentiation, and competitive advantage for motivations that can range from environmental to strategic; 2) how companies respond by integrating sustainability into their strategy, setting goals and standards, as well as different shades of green; and 3) when firms maximize social, environmental, and economic value from solving sustainability issues. Sustainability and Non-market Strategy thus refers to decisions regarding issues of Environment, Social, and Governance issues that firms face, and how firms respond to these challenges. This module should be of value for students interested in issues of sustainability, corporate social responsibility, leadership, and corporate strategy for a world adapting to climate change challenges. In order to achieve these goals, the module will cover topics such as UN Sustainable Development Goals, economics of climate change, CSR, greenwashing, leadership in sustainability, emerging technologies, corporate political activity, and role of government. The module aims to develop critical thinking skills that are useful to identify and analyse challenges and opportunities in sustainability, as well as become responsible leaders and effective agents of social change. The module will take a strategic approach to understanding sustainability, examine recent research to analyse critical, ethical, and managerial issues in issues of sustainability.
Literature	

Module M1830: Causal Data Science for Decision Making in Business (AAU)

Courses

Title	Typ	Hrs/wk	CP
Causal Data Science for Decision Making in Business (AAU) (L3027)	Lecture	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses the necessary knowledge on: • correlation and causation and the inherent differences of these concepts. • central theoretical concepts behind a range of causal data science tools and algorithms. • the theoretical and practical role of causal inference for data-driven business problems in strategic decisions. SKILLS The objective is that the student after the module possesses the necessary skills in: • applying causal thinking to explore both theoretical and practical business decisions. • identifying on an academic basis the potentials and challenges for applying causal thinking in decision making. • presenting and discussing both professional and academic challenges within causal data science for different target groups using relevant software. COMPETENCES The objective is that the student after the module possesses the necessary competences in: • independently carrying out casual data analysis to solve real world problems related to business decision making. • uniting theory and practice within management theory in relation to causal inference in business analytics. applying a problem-based approach to central challenges within management and causal inference in business analytics.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written elaboration
Examination duration and scale	Examination at Aalborg University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3027: Causal Data Science for Decision Making in Business (AAU)	
Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	Managers today need to better understand cause and effect in organisations where data plays an important role in decision-making. While machine learning and AI tools can help with identifying relationships in data, such standard tools often do not detect cause and effect relationships in the data. This creates a shortcoming for managers and strategists where these algorithms may not allow to answer important questions in business analytics and decision making regarding “what is the effect of X on Y?” or “did X cause Y to change?”. Many prominent firms such as Google, Uber, Zalando, McKinsey and Spotify are investing in their causal data science capabilities. This module will provide an introduction to the topic of causal inference with a focus on machine learning and AI based problems in business. In this module, students will conceptually learn how to apply causal inference for data and evidence driven decision making, at the intersection of data science and management strategy. Students will be exposed to various examples to apply concepts from causal analyses learnt in the module. The module will first introduce students to the world of causal inference, and cover standard tools that are used in empirical research, such as instrumental variables, regression discontinuity designs, difference-in-differences. The module will also include case studies that cover machine learning and AI based problems in business decisions. As the module will cover these topics conceptually, students do not need a particular background to take this class. However, some concepts such as conditional means, variances, hypothesis testing and regression will be covered at the beginning of the module. In-class lectures feature case studies and examples of causal inference research designs.
Literature	

Module M1831: Responsible Business: Sustainability, Compliance and Contol Issues (AAU)

Courses

Title	Typ	Hrs/wk	CP
Responsible Business: Sustainability, Compliance and Control Issues (AAU) (L3028)	Lecture	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses the necessary knowledge on: • contextualizing, reviewing and justifing the role of (1) social responsibility; (2) compliance; (3) and management control in organizations that operate across the world. • synthesizing and exemplifying the similarities and differences in the way corporations deal with the tensions generated by the need for being competitive at all costs and the need for being sustainable. SKILLS The objective is that the student after the module possesses the necessary skills in: • selecting and applying appropriate management control techniques and evaluate the information challenges and opportunities they offer to organizations operating in a dynamic global context. • critically addressing global business responsibility issues through competent, context-specific communication skills. • applying appropriate theoretical concepts to situations and cases that characterize global businesses, and synthesize arguments for justifying or critiquing companies' activities and regulations. COMPETENCES The objective is that the student after the module possesses the necessary competency in: • demonstrating an application of knowledge and different forms of reasoning to analyse issues currently being experienced by multinational companies with regard to issues related to (1) social responsibility; (2) compliance; (3) and management control. critically assessing the management control challenges faced by global corporations with regard to constructing and maintaining a reputation that can reflect responsible involvement with communities and attention to societal dynamics.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written elaboration
Examination duration and scale	Examination at Aalborg University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3028: Responsible Business: Sustainability, Compliance and Control Issues (AAU)	
Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	The purpose of this module is to shed light on the social responsibility, compliance, and accountability-control issues that arise in a global business setting. The subject matter is treated as a key for developing critical insight into the world-wide regulatory challenges faced by corporations in implementing environment, social and climate change related reporting obligations, imposed both at the domestic and international level. The module takes the question regarding the practical relevance of three topics - social responsibility, compliance and management control/accountability - in the global context. Firstly, it traces the theories regarding the types and interpretations of corporate social responsibility (CSR), and it illustrates the numerous ways of making sense of it, according to the diverse assumptions about its nature and characteristics. It explores how a range of global emerging social, environmental and political issues impact corporate governance, risk management and strategy policies related to sustainability. Subsequently, it covers the development of the concept of social responsibility and how this is implemented by organizations, what its impact is, and potential future developments. Secondly, the module examines the legal and moral compliance issues and challenges related to these issues are faced by organizations operating in global business contexts. The regulations, standards, and guidance directives that address issues such as environmental compliance, competition, anti-bribery, social responsibility, UN sustainable development goals, ethical leadership and climate change transparency will be considered in this part of the module. Thirdly, the module examines the management control implications. It looks at the definition and interpretation of management control/accountability and at what constitutes the ethic of accountability. In doing so it examines the way social actors (and, to a certain extent, organizations), can situate themselves as members of an ongoing community that affects, and is affected by them. The implications drawing from the interdependence between actors, gatekeepers (such as governments, auditors and regulators), and communities (e.g. the implementation of evaluation criteria, management control mechanisms required to meet relevant regulatory requirements) will be addressed in this part of the module.
Literature	

Module M1832: Entrepreneurial Finance (AAU)

Courses

Title	Typ	Hrs/wk	CP
Entrepreneurial Finance (AAU) (L3029)	Lecture	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses the necessary knowledge on: • how to conduct comprehensive evaluation of a new venture, valuation methods, the purpose and challenges of performing evaluation. • challenges of financing entrepreneurial growth companies and sources of financial resources. • understanding the financial aspects of entrepreneurship, the stages of a start-up development, exit strategies. SKILLS The objective is that the student after the module possesses the necessary skills in: • evaluating venture opportunities and navigating the funding process from the perspective of both an entrepreneur and venture capitalist. • conducting venture valuation in practice by applying IT tools and understanding the impact of risk and uncertainty on the choice of financing. • making informal financial decisions, strategic planning and structuring deals. COMPETENCES The objective is that the student after the module possesses the necessary competences in: • logical thinking, critical analysis, evaluating and interpreting situations and problems that stakeholders might confront in an entrepreneurial firm. • specific financial planning and financial decision-making needs of entrepreneurial ventures, including start up and development phase financial and management problems. applying financial models to appraise the value of a venture or better evaluate the market potential of an opportunity.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written elaboration
Examination duration and scale	Examination at Aalborg University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3029: Entrepreneurial Finance (AAU)	
Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	The module will guide students through the complete life cycle of a start-up venture from launch to exit. It specifies different stages that a new company may go through as it grows, and outlines financial challenges confronting entrepreneurial ventures along the way. Students will receive answers to key questions: how much money can and should be raised, what is the optimal timing of obtaining financing, what is a reasonable valuation of the venture, how and where to obtain financing, how funding should be structured and how to position a new venture strategically. Students will be introduced to knowledge, theories and corporate finance tools that will help to recognise venture value, measure and evaluate financial performance. This module is designed for students who have a basic understanding of finance and familiar with the concepts such as time value of money, basic valuation principles, basic risk and return trade-off fundamentals, basics of evaluation of investment alternatives. During the module students will be introduced to approaches to valuing new venture or start-up equity from a venture capital (VC) perspective, will learn about various types of investors (venture capital, business angels, private equity, early stage and traditional financing sources) and financing of high-risk, high-growth ventures, the optimal timing in terms of obtaining funding and when to go public, exit and turnaround strategies, and the impact of digitalisation on entrepreneurial finance market. The module is essential for those wishing to understand the financial aspects of entrepreneurship and interested in gaining a broader view of the financial landscape and deal structure for new ventures, and for those considering starting a company and raising capital.
Literature	

Module M1833: Internatonal Marketing (AAU)

Courses

Title	Typ	Hrs/wk	CP
International Marketing (AAU) (L3030)	Lecture	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses the necessary knowledge on: • the basic concepts, principles, and practices of international marketing, i.e., marketing to customers in foreign markets. • the international marketing environment and the specific marketing challenges that occur in the international marketing context. SKILLS The objective is that the student after the module possesses the necessary skills in: • evaluating the attractiveness of international opportunities and choosing a market entry strategy. • designing the international marketing mix. • discussing the advantages and disadvantages of different entry mode strategies and providing recommendations about the most appropriate strategy. COMPETENCES The objective is that the student after the module possesses the necessary competences in: • analysing and evaluating a company’s market opportunities in the global business environment. formulating strategies that help companies achieve their international marketing objectives.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written elaboration
Examination duration and scale	Examination at Aalborg University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3030: International Marketing (AAU)

Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	The importance of world trade has increased and international business growth offers increased opportunities for organisations. Many organisations are, therefore, now engaged in planning and conducting marketing activities across national borders. This module, introduces students to international marketing and the factors that create international marketing complexity. Also, to the major decisions in international marketing, including whether to go international, what foreign markets to enter, how to enter these markets, and how to design the international marketing mix.
Literature	

Module M1834: International Sales and Negotiations (AAU)

Courses

Title	Typ	Hrs/wk	CP
International Sales and Negotiations (AAU) (L3031)	Lecture	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses the necessary knowledge on: • negotiation theories for Business to Business. • international differences in negotiation practices. • creating different types of value with stakeholders when negotiating. SKILLS The objective is that the student after the module possesses the necessary skills in: • suggest appropriate negotiation strategies for specific contexts. • negotiating in practice. • selecting central and relevant methods for how to achieve different outcomes through negotiations. COMPETENCES The objective is that the student after the module possesses the necessary competences in: • analysing negotiation situations to suggest improvements. • manage and plan negotiation strategies for business. • applying theoretical and practical approaches of how to influence and persuade in different situations.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written elaboration
Examination duration and scale	Examination at Aalborg University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3031: International Sales and Negotiations (AAU)

Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	International sales and negotiations will introduce the students to business negotiation fundamentals and enable the students to understand different theories of negotiations for marketing and sales contexts. The ability to negotiate with customers and partners is essential to business, and understanding how to plan and execute a negotiation process is a key competency. This module will introduce negotiation techniques and strategies to plan and engage in negotiations as part of sales and marketing processes.
Literature	

Module M1835: Strategic Brand Management (AAU)

Courses

Title	Typ	Hrs/wk	CP
Strategic Brand Management (AAU) (L3032)	Lecture	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence *Knowledge* *Skills* **Personal Competence** *Social Competence* *Autonomy*	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written elaboration
Examination duration and scale	Examination at Aalborg University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3032: Strategic Brand Management (AAU)

Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	Brands can be extremely valuable assets and a significant growth driver. This module will analyse how brands function as pivotal devices in today's society and the role of strategic brand management in customer value creation. During this module the student will acquire insights into how companies should manage brands to maximize brand equity. This includes knowledge about the different brand management decisions that must be made to build, measure, and manage a brand. Furthermore, the objective of this module is to provide the student with insights into central theories and approaches related to strategic brand management, including theories on how customers develop brand attitudes and behaviours.
Literature	

Module M1836: Global Environmental Dynamics and Firms Responses (AAU)

Courses

Title	Typ	Hrs/wk	CP
Global Environmental Dynamics and Firms Responses (AAU) (L3033)	Lecture	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses the necessary knowledge on: • theoretical views and concepts on the emerging dynamics of society and technological breakthroughs affecting market, management, and product innovation in international firms. • how firms respond to the emerging dynamics through various innovative responses and how those dynamics can be addressed in a particular company setting to ensure competitive competencies. SKILLS The objective is that the student after the module possesses the necessary skills in: • explaining and illustrating the core concepts associated with the understanding of emerging social, digital and technological dynamics affecting firm's competitiveness. • defining, explaining and illustrating the relationships between different facets of emerging dynamics, their consequences on global market management, the innovative responses by firms, and the new technologies providing opportunities for competitive competencies. • using artificial intelligence and big data in strategy formulation in international business. COMPETENCES The objective is that the student after the module possesses the necessary competences in: • demonstrating the skills of identifying issues, challenges and possibilities associated with emerging social, digital and technological dynamics affecting competitive competencies and sustainability in global market. communicating effectively in oral and written forms about various emerging social, digital and technological dynamics and their impact on value creation, product and market innovation, and competitive advantage.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written elaboration
Examination duration and scale	Examination at Aalborg University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3033: Global Environmental Dynamics and Firms Responses (AAU)

Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	The module will introduce students with an insight on emerging and global dynamics of society and technology and how those dynamics affect firm's international business operations and competitiveness. During this module, students will be introduced to theories and models explaining how and why firms can transform in the face of revolutionary changes in the global environment due to emerging dynamics and technological breakthroughs through innovative strategies and reinvented business model.
Literature	

Module M1837: Internationalisation in Emerging Product and Geographic Markets (AAU)

Courses

Title	Typ	Hrs/wk	CP
Internationalisation in Emerging Product and Geographic Markets (AAU) (L3034)	Lecture	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses knowledge about: • concepts and theories with reference to emerging product and geographic markets. • the role of design and technology in emerging product/service solutions. • cross-country differences in strategies across emerging markets, the effects of internationalization on emerging markets, as well as risks and opportunities in emerging markets and transitional economies SKILLS The objective is that the student after the module possesses skills in: • discussing and delineating practices in the internationalisation in emerging product and geographic markets. • analysing and synthesizing state-of-the- art knowledge on emerging markets. • pursuing further knowledge related to the module topics through own academic learning. COMPETENCES The objective is that the student after the module possesses abilities in: • applying and reflecting on the internationalisation in emerging product and geographic markets. • applying concepts and theories learnt to understand the challenges faced in emerging product and geographic markets. applying problem-based learning principles to identify problems and propose solutions to issues based on own understanding of the subject matter.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written elaboration
Examination duration and scale	Examination at Aalborg University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3034: Internationalisation in Emerging Product and Geographic Markets (AAU)

Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	The module explores the internationalisation in emerging product and geographic markets. International companies respond to external or internal opportunities and use their creative efforts to introduce new products and services. They, in turn, help capture and retain market share, increase profitability, and achieve competitive advantage in international markets. The module analyses the emergence of products and services, as well as servitization of solutions integrating design and technology. It also explores geographic emerging markets in Asia, Eastern Europe/Russia, Africa and Latin America. It brings cross-country differences in strategies across emerging markets, discusses the effects of internationalization on emerging markets and assesses risks and opportunities in emerging markets and transitional economies.
Literature	

Module M1838: Internationalisation of Diverse Organisational Forms (AAU)

Courses

Title	Typ	Hrs/wk	CP
Internationalisation of Diverse Organisational Forms (AAU) (L3035)	Lecture	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses knowledge about: • newly emerging concepts and theories with reference to new organisational forms and their internationalisation. • approaches and strategies for the internationalisation of various type of organisational forms such as NGOs, platform companies, etc. • challenges in the internationalisation of diverse organisational forms. SKILLS The objective is that the student after the module possesses skills in: • discussing and delineating practices in the internationalisation of diverse organisational forms. • analysing and synthesizing state-of-the- art knowledge on internationalised diverse organisational forms. • pursuing further knowledge related to the module topics through own academic learning. COMPETENCES The objective is that the student after the module possesses abilities in: • applying and reflecting on the internationalisation of diverse organisational forms. • applying concepts and theories learnt to understand the challenges and practices to internationalising organisations. applying problem-based learning principles to identify problems and propose solutions to issues based on own understanding of the subject matter.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written elaboration
Examination duration and scale	Examination at Aalborg University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3035: Internationalisation of Diverse Organisational Forms (AAU)

Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	The module explores the internationalisation of various types of organisational forms such as NGOs, platform organisations, non-for-profit organisations, etc. These forms are not well researched in the International Business literature and offer new avenues for exploring the diversity in internationalisation. The module aims to address the phenomenon of such organisations, cover relevant theories, frameworks, and practices in understanding their internationalisation, their types and relations with established forms of multinational firms. The impact of such organisational forms on society, policy, technology, economy, commerce and the challenges in their international activities and legitimation will be discussed.
Literature	

Module M1839: Multinational Corporations and Innovation Ecosystems (AAU)

Courses

Title	Typ	Hrs/wk	CP
Multinational Corporations and Innovation in Ecosystems (AAU) (L3036)	Lecture	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses knowledge about: • newly emerging concepts and theories in value creation and innovation such as innovation ecosystems, platforms, and digitalization. • MNCs' innovation management practices and strategies from the value co-creation and value capture perspectives. • how innovation in ecosystems facilitates sustainable development and MNCs' global competitiveness. SKILLS The objective is that the student after the module possesses skills in: • analysing and synthesizing state-of-art knowledge on MNCs' global innovation management. • gaining skills on network analysis with the support of digital tools. • developing own conceptualisation and explanation based on in-depth reflections on and MNCs' global innovation and value creation practices. COMPETENCES The objective is that the student after the module possesses abilities in: • applying digital tools and methods to facilitate the learning on MNCs' global innovation management and value creation. • applying concepts and theories learnt to understand MNCs' global innovation challenges and practices applying problem-based learning principles to identify problems and propose solutions to issues based on own understanding of the subject matter.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written elaboration
Examination duration and scale	Examination at Aalborg University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3036: Multinational Corporations and Innovation in Ecosystems (AAU)

Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	This module discusses the emerging trends of value creation such as from do it alone to value co-creation with global partners, establishing cross-border strategic alliances and networks for joint innovation, participating and orchestrating innovation ecosystem for sustainable development, etc. Students will develop knowledge and reflect on issues such as, but not limited to, MNCs' global innovation modes and strategies, business and innovation ecosystems, digital platforms, business ecosystem in emerging markets, and interplay between value co-creation and value capture for sustainable development. During this module, we will start with reflecting more conventional theories and value creation modes such as global value chain and network theory, then will progress to more contemporary theories and topics such as ecosystem theory, coopetition theory, and the impact of digitalization. The module adopts digital tools and employs various pedagogical methods including lecturing, group discussions, peer review and peer learning, games and experiments, simulation, etc.
Literature	

Module M1840: New Venture Creation / Corporate Entrepreneurship (AAU)

Courses

Title	Typ	Hrs/wk	CP
New Venture Creation / Corporate Entrepreneurship (AAU) (L3037)	Project Seminar	30	30

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses the necessary knowledge on: • verifying business ideas/problems and validating needs/pains from customers, including assessing potential market opportunities and validating assumptions regarding the target market. • understanding some of the key drivers that impact upon the successful creation and management of a new venture (in a separate entity or within an existing organisation. • appreciating the importance of business models, customer development and agile development in the process of new venture creation/corporate venturing. SKILLS The objective is that the student after the module possesses the necessary skills in: • generating new business ideas and validating these, including and assessing the resources required to pursue an opportunity. • critically assessing new business ideas based on evidence from the market and to prototype a Minimal Viable Product. • understanding and mastering various physical and digital tools for MVP/MVE prototyping hereunder visualization tools, presentation tools, landing page, platform, and video editing. • understanding the skills and resources needed to create an entrepreneurial organisation further apprehend different business model configurations and business model innovation routes in the entrepreneurial process. COMPETENCES The objective is that the student after the module possesses the necessary competences in: • creating business opportunities and further understanding how to acquiring necessary resources to pursue the identified business opportunity. • designing business models to match the identified business opportunity, evidence from the market (and the host company). pitching the business model of a new venture, the underlying validation process and its academic relevance.
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 480, Study Time in Lecture 420
Credit points	30
Course achievement	None
Examination	Oral exam
Examination duration and scale	40 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3037: New Venture Creation / Corporate Entrepreneurship (AAU)

Typ	Project Seminar
Hrs/wk	30
CP	30
Workload in Hours	Independent Study Time 480, Study Time in Lecture 420
Lecturer	NN
Language	EN
Cycle	WiSe
Content	The purpose of this module is to secure the student can combine theoretical and empirical perspective with a hands-on experience of the process of new venture creation. Either as a new venture or corporate venturing within existing organisations. The project must deal with the process of new venture creation (either as a new venture or corporate venturing within existing organisations) and empirical/theoretical problems in relation to this.
Literature	

Module M1841: Commodity Economics (AAU)

Courses

Title	Typ	Hrs/wk	CP
Commodity Economics (AAU) (L3038)	Project Seminar	30	30

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	none
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	LEARNING OBJECTIVES KNOWLEDGE The objective is that the student after the module possesses the necessary knowledge on: • the extent to which markets are regulated politically and of trends in connection with the transformation of the global commodity markets. • the basic options for managing risk in the commodity market. • the economic and practical fundamentals that drive commodity economics on the market. Furthermore, be aware of the ethical challenges within commodity economics. SKILLS The objective is that the student after the module possesses the necessary skills in: • generating a theoretical and empirically informed decision basis on the background of various business models that analyse the value chain (from up- to downstream) in the commodity complex in order that financial and risk management of raw materials purchase/sale may be handled professionally. • identifying and describing (theoretically) a specific issue related to exposures (physical and/or financial) within commodity economics and explaining the basic financial risks (and opportunities for risk management) related to the company's actual exposure (consumption and/or production or possibly speculative perspectives in connection with risk taking) versus commodities. • analysing the problem area through theories of risk management and/or trading strategy/management (risk taking) and identify and describing the issue in the perspective of current business models as well as the opportunities for development of new business models based on financial management and risk/reward opportunities in the physical/financial markets. COMPETENCES The objective is that the student after the module possesses the necessary competences in: • identifying and verifying an example of commodity exposure. explaining an example of an exposure or a problem/an opportunity in the commodity market
Skills	
Personal Competence	
Social Competence	
Autonomy	
Workload in Hours	Independent Study Time 480, Study Time in Lecture 420
Credit points	30
Course achievement	None
Examination	Oral exam
Examination duration and scale	40 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Management of Technology, Innovation and Entrepreneurial Dynamics (Entrepreneurial Engineering) (AAU): Elective Compulsory

Course L3038: Commodity Economics (AAU)	
Typ	Project Seminar
Hrs/wk	30
CP	30
Workload in Hours	Independent Study Time 480, Study Time in Lecture 420
Lecturer	NN
Language	EN
Cycle	WiSe
Content	The objective of the module is to provide the student with theoretical and practical knowledge and abilities within financial control, trade and management of commodities as well as physical and financial exposures within the commodity market and, additionally, to relate to the ethics within the area. The student must develop abilities and skills to understand the market mechanisms in the commodity markets and handle the purchase and sale of commodities, theoretically and practically (simulated). The module is intended to provide the student with the strategic, financial and trading tools needed to handle both day-to-day management and risk management of commodities in practice. As part of this, the student will also get acquainted with the digital tools used to e.g. trade on the energy market, monitor fluctuation in the prices etc. in order to understand the technologies used in the domain, but also to inspire how these could be further developed and challenged.
Literature	

Specialization Opportunities and Challenges for Innovation Management in New Economic Powerhouses (MU)

Manipal University is synonymous with excellence in higher education. Over 28,000 students from 57 different nations live, learn and play in the sprawling university town. The university has pioneered in every sector, engineering, management, communication and humanities and management, with all its institutes being mapped on the national and international radar. The School of Management, established in 1999, has been shaping professionally competent, socially responsible and ethical management postgraduates. The School draws its strength from its team of dedicated and experienced faculty members. Many of them have industry experience and have commendable record in research and research publication.

The second year of the GTIME program offered by the School, attempts to explore the rapidly changing business landscape in India. It attempts to provide students with a platform to explore this rich developing economy and trace its journey as it emerges into a strong economic power house. The third semester would commence with a one-week cultural immersion program that will sensitize students to the rich cultural heritage of India. This cultural program will also be a birds-eye view of the business culture operational in India. The courses offered in the third semester will provide students with insights into the business models operational in India and changing contours of the business environment. A potent, powerful blend pedagogy consisting of lectures, discussions, on-site visits and case studies will be employed. The project undertaken by the students in the fourth semester will enable them to obtain a hands one experience in an organization where he/she will be able to relate the class room discussions practically.

Module M1369: Business Modelling and System Dynamics (MU)

Courses

Title	Typ	Hrs/wk	CP
Business Modelling and System Dynamics (MU) (L1948)	Lecture	5	5

Module Responsible	Prof. Lewlyn Rodrigues
Admission Requirements	None
Recommended Previous Knowledge	None
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	• Know the importance of system thinking in an organization. • Understand the importance of modelling and simulation of a dynamic system. • Appreciate the wide range of applications of System Dynamics • Understand the stages of modelling process. • Methods for validating a System Dynamics model.
Skills	After completing this module, students will have skills in: • Identifying key parameters and its influence on the system for a specific problem. • Developing a System Dynamics model. • Interpretation of simulation results and policy formulation.
Personal Competence	
Social Competence	
Autonomy	After completing this module, students will have skills: • In predicting dynamic scenarios in business innovation. • Developing business models which will be helpful in predicting the success of innovation. • Applying a holistic view to business problems.
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written exam
Examination duration and scale	Prüfung abgelegt an der Manipal University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Opportunities and Challenges for Innovation Management in New Economic Powerhouses (MU): Compulsory

Course L1948: Business Modelling and System Dynamics (MU)

Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	Prof. Lewlyn Rodrigues
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1372: Technology, Creativity and Innovation (MU)

Courses

Title	Typ	Hrs/wk	CP
Technology, Creativity and Innovation (MU) (L1951)	Lecture	5	5

Module Responsible	Prof. Shiva Prasad
Admission Requirements	None
Recommended Previous Knowledge	None
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	• Types of creativity and innovation and its barriers. • Frameworks and strategies for building an ecosystem for creativity and innovation. • Managing creativity, innovation and technology. • Understand the basic frameworks for assessing the technology capabilities of a business. • Know the importance of facilitating the adoption of new technology. • Understand the importance of creativity, innovation & technology to gain competitive advantage.
Skills	After completing this module, students will have skills in: • Developing framework and strategies for enabling a supportive environment for fostering creativity and innovation. • Assess and audit the technology capabilities of a business. • Analyse the problems related to creativity, innovation and technology management.
Personal Competence	
Social Competence	Teamwork and communication skills
Autonomy	After completing this module, students will have skills: • Identify the need for innovation and apply creative solutions for the technological development. • Assessing the feasibility of innovative ideas.
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written exam
Examination duration and scale	Examination at Manipal University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Opportunities and Challenges for Innovation Management in New Economic Powerhouses (MU): Compulsory

Course L1951: Technology, Creativity and Innovation (MU)

Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	Prof. Shiva Prasad
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1790: Communication Across Cultures (MU)

Courses

Title	Typ	Hrs/wk	CP
Communication Across Cultures (MU) (L2948)	Lecture	4	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence *Knowledge* *Skills* **Personal Competence** *Social Competence* *Autonomy*	
Workload in Hours	Independent Study Time 94, Study Time in Lecture 56
Credit points	5
Course achievement	None
Examination	Written exam
Examination duration and scale	90 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Opportunities and Challenges for Innovation Management in New Economic Powerhouses (MU): Compulsory

Course L2948: Communication Across Cultures (MU)

Typ	Lecture
Hrs/wk	4
CP	5
Workload in Hours	Independent Study Time 94, Study Time in Lecture 56
Lecturer	NN
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1791: Strategic Operations (MU)

Courses

Title	Typ	Hrs/wk	CP
Strategic Operations (MU) (L2949)	Lecture	4	5

Module Responsible	Prof. Cornelius Herstatt
Admission Requirements	None
Recommended Previous Knowledge	
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence *Knowledge* *Skills* **Personal Competence** *Social Competence* *Autonomy*	
Workload in Hours	Independent Study Time 94, Study Time in Lecture 56
Credit points	5
Course achievement	None
Examination	Written exam
Examination duration and scale	90 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Opportunities and Challenges for Innovation Management in New Economic Powerhouses (MU): Compulsory

Course L2949: Strategic Operations (MU)

Typ	Lecture
Hrs/wk	4
CP	5
Workload in Hours	Independent Study Time 94, Study Time in Lecture 56
Lecturer	NN
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1792: Organic Growth of Family-owned Business in India (MU)

Courses

Title	Typ	Hrs/wk	CP
Organic Growth of Familiy-owned Business in India (MU) (L2950)	Lecture	4	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence *Knowledge* *Skills* **Personal Competence** *Social Competence* *Autonomy*	
Workload in Hours	Independent Study Time 94, Study Time in Lecture 56
Credit points	5
Course achievement	None
Examination	Written exam
Examination duration and scale	90 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Opportunities and Challenges for Innovation Management in New Economic Powerhouses (MU): Compulsory

Course L2950: Organic Growth of Familiy-owned Business in India (MU)

Typ	Lecture
Hrs/wk	4
CP	5
Workload in Hours	Independent Study Time 94, Study Time in Lecture 56
Lecturer	NN
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1793: Understanding the Service Market in India (MU)

Courses

Title	Typ	Hrs/wk	CP
Understanding the Service Market in India (MU) (L2951)	Lecture	4	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence *Knowledge* *Skills* **Personal Competence** *Social Competence* *Autonomy*	
Workload in Hours	Independent Study Time 94, Study Time in Lecture 56
Credit points	5
Course achievement	None
Examination	Written exam
Examination duration and scale	90 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Opportunities and Challenges for Innovation Management in New Economic Powerhouses (MU): Compulsory

Course L2951: Understanding the Service Market in India (MU)

Typ	Lecture
Hrs/wk	4
CP	5
Workload in Hours	Independent Study Time 94, Study Time in Lecture 56
Lecturer	NN
Language	EN
Cycle	WiSe
Content	
Literature	

Specialization Technology and Innovation Management in Japan (APU)

Ritsumeikan University uses the second year of the GTIME program to introduce the students to innovation processes and management approaches used in Japan. Since the global success of Japanese companies, practitioners and scholars around the world have shown an increased interest in and appreciation for Japanese management principles and innovative practices. Japanese companies have for a long time adapted Western ideas of quality and innovation to the Japanese context and introduced new and innovative innovation processes and management techniques. Japan is still a leading driver in the migration toward global operations, integrating design, sourcing, manufacturing and distribution of products and services globally.

The second year in Japan adds to the global character of the master in innovation and technology management. Considering the renowned innovation process of the industry in Japan and the unique innovation processes used in Japan, it is a clear advantage to have focused course- and seminar modules about Japanese product and process innovation conduced in Japan. The students who choose Ritsumeikan University in Japan as their second year destination gain invaluable insights into the Japanese approach to innovation and the international competitiveness that arises from it.

Module M1355: Information Technology Management (APU)

Courses

Title	Typ	Hrs/wk	CP
Information Technology Management (APU) (L1930)	Lecture	4	4

Module Responsible	Prof. Yukihiko Nakata
Admission Requirements	None
Recommended Previous Knowledge	None
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	Subject-related knowledge and understanding: • The value of IT to organizations. • The role of information technology for product and process development and the value of innovations. • Recognize and analyze the information-communication systems/services nexus. • Understand the principles necessary to overcome the management challenges of integrating IT in innovation and employing it an organization. • Understanding how best practices can be implemented into the IT organization successfully.
Skills	Subject-related skills: After completing this module, students will have skills in: • Determining what is to be contained in an IT Strategic Plan. • Integrating IT into product and service concept development • Coping with challenges of IT integration in product development and an organization
Personal Competence	
Social Competence	Key Qualifications: After completing this module, students will have skills: • Identify the role of information for the success of innovation and competitiveness • Integration of information management in all stages of product development • Master total information technology management (ITM) in R&D and business processes.
Autonomy	
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Credit points	4
Course achievement	None
Examination	Written exam
Examination duration and scale	Examination at Ritsumeikan Asia Pacific University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology and Innovation Management in Japan (APU): Compulsory

Course L1930: Information Technology Management (APU)	
Typ	Lecture
Hrs/wk	4
CP	4
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Lecturer	Prof. Yukihiko Nakata
Language	EN
Cycle	WiSe

Content	The aim of this course is to demonstrate and discuss the essential role of information technology for innovation and competitive advantage of a company. Innovations of the 21st century such as Apple's iPod - and the competiveness advantage that results from it - are more and more based on information than on physical apparatus. Innovations are embedded in information networks and the value of a physical apparatus is based on how much information is processed or made available through the apparatus. In addition, information technologies are the core for management, manufacturing and service processes.
	In this sense Information Technology Management is important to accelerate innovations and strengthen competitiveness and, therefore, one of the key parts of Management of Technology (MOT), which is the management to lead R&D to business and add extra value.
	The course objective is to master “Total Information Technology Management (ITM)”. This concepts generally aim at leading R&D and business processes to effectively utilize IT in order to strengthen competitiveness.
	The course is a complement to the courses “Strategy of Technology (SOT)” and “Management of Technological (MOT)”.
	• Why "Information Technology Management"?
	• Paradigm Shift of IT Management
	  ◦ IT in the 21st century
	  ◦ Smartphone, Big data etc.
	• The Role of Information in innovation
	  ◦ Case Study of iPod: Video Case Study
	  ◦ “The iPod Revolution”
	• E-Business and E-Commerce
	  ◦ E-business
	  ◦ Online Shopping Video Case Study
	  ◦ CEO exchange: Bezos of Amazon and Dyer of Land’s End
	• Transaction Processing, Functional Application and Integration Managing Production
	• Emerging IT Management
	• Knowledge Management:
	  ◦ Requirements for Digitalization
	  ◦ IT systems for Knowledge Management
	• Enterprise System for Total Supply Chain Management
	  ◦ Supply Chain Enterprise Resource
	  ◦ Radio Frequency Identification (RFID
	  ◦ Case Study of JR-Suica Video Case Study “Project X; Challenger IC Card System of JR-Suica”
	• Build to Order
	  ◦ Mass customization
	  ◦ Video Case Study; CEO exchange: Dell of Dell and Smith of FedEx
	• Social Networking Service: Business Developing by IT

Literature	• Turban, E., Volonino, L., Wood, G. R. (2005) Information Technology for Management: Digital Strategies for Insight, Action, and Sustainable Performance, John Wiley & Sons.

Module M1356: Technology Management (APU)

Courses

Title	Typ	Hrs/wk	CP
Technology Management (APU) (L1931)	Lecture	4	4

Module Responsible	Prof. Masanori Namba
Admission Requirements	None
Recommended Previous Knowledge	None
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	Students will learn the basic concepts on innovation and the features of technology which enable them to understand the integrated and complex process of R&D, New Product Development, Business Operations, and the role and the effective use of Information Technology for overall management.
Skills	- Skills in managing business and innovation processes - Managing a variety of technologies - Project management towards an innovative company strategy
Personal Competence	
Social Competence	- Teamwork and communication skills - Intercultural management skills
Autonomy	- Leadership - Analytical decision making
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Credit points	4
Course achievement	None
Examination	Written exam
Examination duration and scale	Examination at Ritsumeikan Asia Pacific University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology and Innovation Management in Japan (APU): Compulsory

Course L1931: Technology Management (APU)	
Typ	Lecture
Hrs/wk	4
CP	4
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Lecturer	Prof. Masanori Namba
Language	EN
Cycle	WiSe

Content	• Part 1 Sources of Competitiveness: Linkage of R&D and Production
	  ◦ Class 1 R&D and Production activities as Information Processing
	  ◦ Class 2 Innovator's Dilemma and Case Study History of HDD
	  ◦ Class 3 Pitfalls in new product development & new business development, and Case Study (IBM)
	  ◦ Class 4 Management of emerging technology and Case Study (Path to new technology)
	• Part 2 Strategy for Creation of Core Competences
	  ◦ Class 5 Core Competences and their evolution, and Case Study (Intel)
	  ◦ Class 6 Market Creation: Ideation, Conceptualization and Business Model, Case Study (TiVo)
	  ◦ Class 7 Project Management for New Product Development (Stage Gates/ PACE method)
	  ◦ Class 8 New Business Development (Alliance/introduction to Self Development)
	• Part 3 Managing of Information Technology(IT)
	  ◦ Class 9 Information needs in an organization and role of IT
	  ◦ Class 10 Alternative ways to match the IT function to the structure and behavior of the organization
	  ◦ Class 11 Consideration of the ethical and organizational implication and effects of IT
	• Part 4 Competitiveness and Production Management
	  ◦ Class 12 Comparison of Mass Production Method & Lean System; Ford System and Toyota System
	  ◦ Class 13 Cost, Productivity and Learning Curve
	  ◦ Class 14 Supply Chain and Open Architecture
	  ◦ Class 15 Total Innovation Management

Literature	• Leifer, Richard, McDermott, Christopher M., O'Connor, Gina Colarelli, Peters, Lois S. Rice, Mark P. Veryzer Robert W. (2000) Radical Innovation: How Mature Companies Can Outsmart Upstarts, Harvard Business School Press. • Day George S., Schoemaker, Paul J.H. with Robert E. Gunther (2005) Wharton on managing emerging technologies. • Porter Michael E. (1998) On Competition (Harvard Business Review Book Series), Harvard Business School Press • Clayton, M. Christensen (2003) The Innovator's Dilemma: The Revolutionary National Book That Will Change the Way You Do Business (Harperbusiness Essentials) Harperbusiness. • Clayton, M. Christensen, Raynor Michael E. (2005) The innovator''s solution : creating and sustaining successful growth. • Tschirky, H., Jung () Technology and innovation management on the move : from managing technology to managing innovation-driven enterprises (Industrielle Organisation). • Simon, H. () Hidden champions of the twenty-first century : success strategies of unknown world market leaders, Springer.

Module M1357: Japanese Corporations and Asia Pacific (APU)

Courses

Title	Typ	Hrs/wk	CP
Japanese Corporations and Asia Pacific (APU) (L1932)	Lecture	4	4

Module Responsible	Prof. Kaoru Natsuda
Admission Requirements	None
Recommended Previous Knowledge	Basic business knowledge.
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	The aim of this course is to provide knowledge of Japanese management systems and Japanese economy in relation to the Asia Pacific region. The contents of the course include Japanese domestic business and economic systems including human resource management, keiretsu, general trading companies, the role of the Japanese government in the economy, as well as the internationalization strategy (or regionalization) of Japanese corporations. We will particularly examine how Japanese multinational corporations have conducted foreign direct investment in the region in the historical perspective. In addition, the course requires the students' participation through a presentation: Investment Promotion - how to attract Japanese corporations into the country, which will be selected in the Asia Pacific region
Skills	By the end of the module students will have learned: Completion of the course will assists students to establish a good working knowledge of Japanese business management, Japanese political economy as well as issues in the Asia Pacific. It will also assist students to develop research and presentation skills, which are required of anyone if they wish to put their analytical thinking capabilities into practice. Subject-related knowledge and understanding: • Knowledge of Japanese management such as life time employment system, seniority system, enterprise unions, kaizen. • Knowledge of Japanese political economy such as keiretsu system, developmental state concept, industrial policy. • Knowledge of Japanese foreign direct investment in the Asia since 1950s until recent years. Knowledge of the Asia Pacific economy and international relations in Asia.
Personal Competence	
Social Competence	Teamwork and communication skills
Autonomy	- Management skills - Decision making - Presentation skills
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Credit points	4
Course achievement	None
Examination	Written exam
Examination duration and scale	Examination at Ritsumeikan Asia Pacific University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology and Innovation Management in Japan (APU): Compulsory

Course L1932: Japanese Corporations and Asia Pacific (APU)	
Typ	Lecture
Hrs/wk	4
CP	4
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Lecturer	Prof. Kaoru Natsuda
Language	EN
Cycle	WiSe
Content	I. Competitive Advantages of Country Porter, Michael (1990) The Competitive Advantage of Nations, New York, The Free Press.(Chapter 3) World Economic Forum (2013) The Global Competitiveness Report 2013-2014, Geneva, World Economic Forum. II. Japanese Management Systems Abegglen, James (2006) 21st Century Japanese Management: New Systems, lasting value, New York, Palgrave Macmillan (chapter 4) Flath, David (2005)The Japanese Economy (2nd Edition), Oxford, Oxford University Press (Chapter 15) Itagaki, Hiroshi (2011) “The Japanese Management System and the Corporate Strategies of Japanese Companies” in Kawamura, T (ed.) Hybrid Factories in the United States, Oxford, Oxford University Press. III. Japanese Production Management Imai Masaaki (1997) Gemba Kaizen: a commonsense, low-cost approach to management, New York, MacGraw-Hill. (Chapter 1) Urata Shujiro (1999) “Intrafirm Technology Transfer by Japanese Multinationals in Asia”, in Encarnation (ed.), Japanese Multinationals in Asia, Oxford, Oxford University Press. IV. Industrial Organisation in Japan (Keiretsu & Sogo Shosha) Flath, David (2005)The Japanese Economy (2nd Edition), Oxford, Oxford University Press (Chapter 12) Chen, Min (2004) Asian Management Systems (2nd edition), London, Thomson. (Chapter 12) V. Government-Business Relationship in Japan and the Asia Pacific Chen, Min (2004) Asian Management Systems (2nd edition), London, Thomson. (Chapter 11) Chiu, Stephen and Lui, Tai-lok (1998) “ The Role of the State in Economic Development”, in Thompson, G. (ed.) Economic Dynamism in the Asia-Pacific, London, Routledge. VI. Japanese Foreign Economic Policies and FDI in the Asia Pacific Natsuda, Kaoru (2008) “Japan’s Foreign Economic Policies towards East Asia in the Post War Era”, Asian Profile, vol. 36, no.5,pp.455-468 Farrell, Roger (2008) Japanese Investment in the World Economy, Cheltenham, Edward Elgar. VII. Japanese Production Networks in the Asia Pacific Hatch, Walter and Yamamura Kozo (1996) Asia in Japan’s Embrace: Creating a Regional Production, Cambridge, Cambridge University Press. (Chapter 2) VIII. Investment Promotion Presentation VIIII. Japanese Corporations and Future of the Asia Pacific
Literature	• Abegglen, James (2006) 21st Century Japanese Management: New Systems, lasting value, New York, Palgrave Macmillan. • Chen, Min (2004) Asian Management Systems (2nd edition), London, Thomson. • Flath, David (2005)The Japanese Economy (2nd Edition), Oxford, Oxford University Press.

Module M1362: Major Seminar (APU)

Courses

Title	Typ	Hrs/wk	CP
Major Seminar (APU) (L1939)	Seminar	6	6

Module Responsible	Prof. Rian Beise-Zee
Admission Requirements	None
Recommended Previous Knowledge	None
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	Changing programme related topics.
Skills	Competence to be gained according to the different topics (projects in cooperation with Japanese firms).
Personal Competence	
Social Competence	Teamwork and communication skills.
Autonomy	Management and decision making skills.
Workload in Hours	Independent Study Time 96, Study Time in Lecture 84
Credit points	6
Course achievement	None
Examination	Written elaboration
Examination duration and scale	Examination at Ritsumeikan Asia Pacific University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology and Innovation Management in Japan (APU): Compulsory

Course L1939: Major Seminar (APU)

Typ	Seminar
Hrs/wk	6
CP	6
Workload in Hours	Independent Study Time 96, Study Time in Lecture 84
Lecturer	Prof. Rian Beise-Zee
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1366: Management in Asia and Japan (APU)

Courses

Title	Typ	Hrs/wk	CP
Management in Asia and Japan (APU) (L1945)	Lecture	4	4

Module Responsible	Prof. Ali Haidar
Admission Requirements	None
Recommended Previous Knowledge	Basic management subjects.
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	• Learn ways of sustaining economic growth that Asian countries are currently experiencing • Develop successful management career in Asia • Balance the needs of the society and the objectives of corporations
Skills	Develop oral and written communication skills.
Personal Competence	
Social Competence	• Be culturally sensitive • Teamwork • International communication skills
Autonomy	- Management skills - Leadership
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Credit points	4
Course achievement	None
Examination	Written exam
Examination duration and scale	Examination at Ritsumeikan Asia Pacific University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology and Innovation Management in Japan (APU): Elective Compulsory

Course L1945: Management in Asia and Japan (APU)

Typ	Lecture
Hrs/wk	4
CP	4
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Lecturer	Prof. Ali Haidar
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1359: National Innovation Systems (APU)

Courses

Title	Typ	Hrs/wk	CP
National Innovation Systems (APU) (L1935)	Lecture	4	4

Module Responsible	Prof. Behrooz Asgari
Admission Requirements	None
Recommended Previous Knowledge	None
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	Subject-related knowledge and understanding: • Key concepts of national systems of innovation • The nation-specific determinants of innovation • The system-approach to the development of product and service innovations
Skills	After completing this module, students will have skills in: • language and concepts of national and regional determinants of innovation for product and service development • related product development issues to the national and regional
Personal Competence	
Social Competence	
Autonomy	After completing this module, students will have skills: • familiarization with the system approach of innovation • ability of apply principles of national systems of innovation to decision problems of policy makers and public administrators
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Credit points	4
Course achievement	None
Examination	Written exam
Examination duration and scale	Examination at Ritsumeikan Asia Pacific University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology and Innovation Management in Japan (APU): Compulsory

Course L1935: National Innovation Systems (APU)

Typ	Lecture
Hrs/wk	4
CP	4
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Lecturer	Prof. Behrooz Asgari
Language	EN
Cycle	WiSe

Content	• Why study National Innovation Systems?
	  ◦ The Concept of National Innovation Systems
	  ◦ National Structures and Policies framing innovations
	• Analytical Perspectives: What is Innovation?
	  ◦ History and Development of the NIS Concept
	  ◦ The system nature of innovation
	• Recent Trends in NIS Research
	• NIS and Innovation Policy
	• Examples of National Innovation Systems
	  ◦ United States
	  ◦ Japan
	  ◦ Korea
	  ◦ Malaysia

Literature	No textbook , but a journal articles and book chapters

Module M1361: Quality and Operations Management (APU)

Courses

Title	Typ	Hrs/wk	CP
Quality and Operations Management (APU) (L1936)	Lecture	4	4

Module Responsible	Prof. Behrooz Asgari
Admission Requirements	None
Recommended Previous Knowledge	None
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	• knowledge base for studies and work in the field of Quality and Operations Management • knowledge of the foundations of Quality and Operations Management • an introduction to tools and approaches useful in improving organisational processes and products • Understanding of Japanese-style quality management philosophy and processes
Skills	After completing this module, students will have skills in: • language, concepts, and tools to deal with quality and operations issues in order to gain competitive advantage through operations.
Personal Competence	
Social Competence	
Autonomy	After completing this module, students will have skills: • familiarization with the problems and issues confronting operations managers • ability of apply principles and methods of an integrated quality and operations management.
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Credit points	4
Course achievement	None
Examination	Written exam
Examination duration and scale	Examination at Ritsumeikan Asia Pacific University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology and Innovation Management in Japan (APU): Compulsory

Course L1936: Quality and Operations Management (APU)	
Typ	Lecture
Hrs/wk	4
CP	4
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Lecturer	Prof. Behrooz Asgari
Language	EN
Cycle	WiSe

Content	• Operations Strategy in a Global Environment
	  ◦ Operations and Productivity
	  ◦ Quality and Operations Management
	  ◦ Lean Production
	• Decision-Making Tools
	• Forecasting
	• Managing Quality
	  ◦ Design for Quality
	  ◦ Improvement Processes
	  ◦ Total Quality Management
	• Statistical Process Control
	• Process Strategy
	  ◦ Process View. Inventory, Thruput, Flowtime
	  ◦ Work flow management
	  ◦ Bottleneck Analysis, Level vs. Chase plans
	  ◦ Control charts and Just-in-time Processes
	• Capacity Planning
	  ◦ Linear Programming: Objectives, Constraints
	  ◦ Linear Programming Formulations
	• Location Strategies
	  ◦ Transportation Models
	  ◦ Layout Strategy

Literature	• Russell, Roberta S., Taylor, Bernard W. (2014) Operations management, Wiley; 8th Edition International Student Version

Module M1363: Project Management (APU)

Courses

Title	Typ	Hrs/wk	CP
Project Management (APU) (L1940)	Lecture	4	4

Module Responsible	Prof. Noboyuki Yamamura
Admission Requirements	None
Recommended Previous Knowledge	Basic management subjects.
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	• Practical knowledge and skills to structure manage and evaluate projects • Identify project risks • Apply methods for motivating teams and retaining focus • Knowledge project management that combines the 3K of kakusin (innovation), kaihatsu (development), and kaizen (improvement)
Skills	• Identify project risks. • apply methods for motivating teams and retaining focus. • Use tools and techniques for planning and tracking a project. • the implementation of innovative project management techniques and processes. • adaptation of project management techniques to projects in developing countries including alternative planning strategies for conditions of uncertainty and organizational factors in policies, gaining acceptance, assuring implementation, and coping with unanticipated consequences.
Personal Competence	
Social Competence	- Teamwork and communication skills - Intercultural management skills specific to Japan and Asia
Autonomy	- Leadership and decision making skills. - Project management skills.
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Credit points	4
Course achievement	None
Examination	Written exam
Examination duration and scale	Examination at Ritsumeikan Asia Pacific University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology and Innovation Management in Japan (APU): Elective Compulsory

Course L1940: Project Management (APU)

Typ	Lecture
Hrs/wk	4
CP	4
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Lecturer	Prof. Noboyuki Yamamura
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1368: Management of Japanese Family Businesses (APU)

Courses

Title	Typ	Hrs/wk	CP
Management of Japanese Family Businesses (APU) (L1947)	Lecture	4	4

Module Responsible	Prof. Kenji Yokoyama
Admission Requirements	None
Recommended Previous Knowledge	Basic management subjects.
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	• Five Models of family business • Issues, such as succession, innovation, relationship with community and longebity • How Japanese family business is different from those of other countries • The secret of the success of Japanese Family business • What are important for successful family business
Skills	The students will learn management and leadership skills specific to small and medium size familiy businesses in Japan. This incorporates general communication and project management skills as well as intercultural skills for the Japanese region.
Personal Competence	
Social Competence	- Teamwork and communication skills. - Project management skills.
Autonomy	Leadership and decision making skills
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Credit points	4
Course achievement	None
Examination	Written exam
Examination duration and scale	Examination at Ritsumeikan Asia Pacific University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology and Innovation Management in Japan (APU): Elective Compulsory

Course L1947: Management of Japanese Family Businesses (APU)

Typ	Lecture
Hrs/wk	4
CP	4
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Lecturer	Prof. Kenji Yokoyama
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1367: Supply Chain Management (APU)

Courses

Title	Typ	Hrs/wk	CP
Supply Chain Management (APU) (L1946)	Lecture	4	4

Module Responsible	Prof. Rian Beise-Zee
Admission Requirements	None
Recommended Previous Knowledge	Basic management subjects.
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	• How the supply chain is designed using fundamental principles • How to achieve balance and efficiency by focusing on Variety: of offerings based on operational efficiency and market demand, Velocity through all processes of the supply chain and Manage inconsistencies carefully to reduce cost and improve quality and transparency to enable continuous learning and improvement • How to improve production and operations in a variety of industries, including manufacturing, banking, health care and retailing
Skills	- Skills to design a supply chain - Skills to improve a supply chain using continuous improvement approaches
Personal Competence	
Social Competence	Teamwork and communication skills.
Autonomy	- Project management skills - Analytical decision making skills
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Credit points	4
Course achievement	None
Examination	Written exam
Examination duration and scale	Examination at Ritsumeikan Asia Pacific University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology and Innovation Management in Japan (APU): Elective Compulsory

Course L1946: Supply Chain Management (APU)

Typ	Lecture
Hrs/wk	4
CP	4
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Lecturer	Prof. Rian Beise-Zee
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1364: Japanese I (APU)

Courses

Title	Typ	Hrs/wk	CP
Japanese I (APU) (L1943)	Lecture	4	4

Module Responsible	Prof. Rian Beise-Zee
Admission Requirements	None
Recommended Previous Knowledge	None
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	By the end of the module students will have learned: • To speak and familiarize themselves with Japanese as a foreign language • The students will be able to identify the basic sounds, words and expressions of the Japanese language. They will be able to say or express basic ideas, sentences, and desires in simple sentences. They will learn to write the Japanese script and learn enough vocabulary to continue with the Basic 2 level course.
Skills	Students will gain basic communication skills in the Japanese language.
Personal Competence	
Social Competence	Communication skills.
Autonomy	The course will help students orienting themselves in every day life in Japan through a better understanding of language and culture.
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Credit points	4
Course achievement	None
Examination	Written exam
Examination duration and scale	Examination at Ritsumeikan Asia Pacific University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology and Innovation Management in Japan (APU): Elective Compulsory

Course L1943: Japanese I (APU)

Typ	Lecture
Hrs/wk	4
CP	4
Workload in Hours	Independent Study Time 64, Study Time in Lecture 56
Lecturer	Prof. Rian Beise-Zee
Language	
Cycle	WiSe
Content	
Literature	

Specialization Technology Venturing (KTU)

Kaunas University of Technology (KTU) in Lithuania specialises in Technology Venturing during the second year of the GTIME program. Students will gain a broad understanding of the technology venturing process within different size projects and different industrial contexts. All studied topics are pulled together to develop 'right to win' business strategies that are sustainable and differentiated.

The modules at KTU are structured around the following topics: How to initiate technology venturing and develop business model for technology driven business? How to build a successful team for venturing and create a successful start-up? What are the differences between an idea and true opportunity and how to search for promising business opportunities? How to gather the resources necessary to create a great company and leverage venture capital? How to pitch business ideas to investors and manage stakeholder relations? How to assess business value and monitor business growth? What is entrepreneurial leadership in a large company? How to take advantage of doing business within the networks? How to manage corporate intellectual property in order stay competitive in the market? How can organizations fully exploit their potential and capture maximum value for growth and success?

The second-year modules in Kaunas are designed and executed by top academic researchers, and therefore are strongly research oriented. By introducing students to the state-of-the-art in academic research, the aim is to give them necessary tools to properly understand, evaluate and solve real-life cases, and to successfully conduct their final master degree project research.

The problem-based study approach adopted at KTU is intended to disclose a full variety of the problems related to technology venturing that arise in a wide range of different contexts, including: manufacturing, services, small to large organizations and the private and public sectors.

Module M1786: Strategic Management (KTU)

Courses

Title	Typ	Hrs/wk	CP
Strategic Management (KTU) (L2944)	Lecture	4	10

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence *Knowledge* *Skills* **Personal Competence** *Social Competence* *Autonomy*	
Workload in Hours	Independent Study Time 244, Study Time in Lecture 56
Credit points	10
Course achievement	None
Examination	Written exam
Examination duration and scale	90 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology Venturing (KTU): Compulsory

Course L2944: Strategic Management (KTU)

Typ	Lecture
Hrs/wk	4
CP	10
Workload in Hours	Independent Study Time 244, Study Time in Lecture 56
Lecturer	NN
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1787: Data Analysis Methods (KTU)

Courses

Title	Typ	Hrs/wk	CP
Data Analysis Methods (KTU) (L2945)	Lecture	4	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence *Knowledge* *Skills* **Personal Competence** *Social Competence* *Autonomy*	
Workload in Hours	Independent Study Time 94, Study Time in Lecture 56
Credit points	5
Course achievement	None
Examination	Written exam
Examination duration and scale	90 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology Venturing (KTU): Compulsory

Course L2945: Data Analysis Methods (KTU)

Typ	Lecture
Hrs/wk	4
CP	5
Workload in Hours	Independent Study Time 94, Study Time in Lecture 56
Lecturer	NN
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1788: Reserach Project (KTU)

Courses

Title	Typ	Hrs/wk	CP
Research Project (KTU) (L2946)	Project Seminar	5	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence *Knowledge* *Skills* **Personal Competence** *Social Competence* *Autonomy*	
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written elaboration
Examination duration and scale	approximately 10 pages written elaboration and oral presentation
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology Venturing (KTU): Compulsory

Course L2946: Research Project (KTU)

Typ	Project Seminar
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	NN
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1789: Communication and Negotiation (KTU)

Courses

Title	Typ	Hrs/wk	CP
Communication and Negotiation (KTU) (L2947)	Lecture	4	5

Module Responsible	NN
Admission Requirements	None
Recommended Previous Knowledge	
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence *Knowledge* *Skills* **Personal Competence** *Social Competence* *Autonomy*	
Workload in Hours	Independent Study Time 94, Study Time in Lecture 56
Credit points	5
Course achievement	None
Examination	Written exam
Examination duration and scale	90 min
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology Venturing (KTU): Compulsory

Course L2947: Communication and Negotiation (KTU)

Typ	Lecture
Hrs/wk	4
CP	5
Workload in Hours	Independent Study Time 94, Study Time in Lecture 56
Lecturer	NN
Language	EN
Cycle	WiSe
Content	
Literature	

Module M1376: Business Models Innovation (KTU)

Courses

Title	Typ	Hrs/wk	CP
Business Models Innovation (KTU) (L1955)	Lecture	5	5

Module Responsible	Prof. Giedrius Jucevičius
Admission Requirements	None
Recommended Previous Knowledge	General management theory (non-mandatory)
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	1. Knows the concepts of value innovation and business model innovation, understands their theoretical structure and is capable of making the projections of new value creation 2. Knows the theoretical alternatives of new value creation and is capable of applying the methods of rethinking the boundaries of markets and industries 3. Knows the main patterns of business models and is capable of linking them with the new value propositions 4. Is capable of identifying the opportunities of new business models and new value propositions in the contemporary business environment 5. Knows the recent trends of consumption in the contemporary markets and is capable of integrating them into the construction of new value propositions 6. Understands the challenges underlying the practical implementation of value innovation and is capable of meeting them successfully in the organizational practice 7. Knows the key theories and practices in change management, related to value innovation, and is capable of applying them successfully in organizational activities 8. Is capable of testing the prototypes of new value propositions in the market and interpreting the obtained data
Skills	1. Able to identify new business possibilities through profound and entrepreneurial evaluation of economic, social, and other changes 2. Capable of creating innovative business models, processes of innovation implementation, and business intelligence systems. 3. Able to think sistemically, critically, and creatively; capable of communicating and presenting the acquired knowledge.
Personal Competence	
Social Competence	Teamwork, discussion, ideas sharing, harmonizing business development and the principles of sustainable development
Autonomy	Presentation skills, literature research, data collection, analyses and interpretation based on gained theoretical concepts.
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Credit points	5
Course achievement	None
Examination	Written exam
Examination duration and scale	Examination at Kaunas Technical University
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Specialisation Technology Venturing (KTU): Compulsory

Course L1955: Business Models Innovation (KTU)	
Typ	Lecture
Hrs/wk	5
CP	5
Workload in Hours	Independent Study Time 80, Study Time in Lecture 70
Lecturer	Prof. Giedrius Jucevičius
Language	EN
Cycle	SoSe

Content	• New competition arena: disruptive changes in technology and business
	  ◦ Variety of innovations
	  ◦ Disruptive innovations: markets and technologies
	  ◦ Towards value- and business model innovation
	• Redefinition of market boundaries
	  ◦ What is my business?
	  ◦ Value innovation, “blue ocean strategy”, “white space” and other concepts
	  ◦ Changes in value chains and evolving profit patterns
	• Business model innovation
	  ◦ Business model as dominant business logic
	  ◦ Business model canvas
	  ◦ Innovative business model in different industrial contexts
	• Putting new value architecture into practice
	  ◦ Prototyping
	  ◦ Testing
	  ◦ Lean business model canvas
	• Managing organizational change to support value innovation
	  ◦ Key concepts in change management
	  ◦ Overcoming the barriers to implementing value innovation

Literature	Osterwalder, A., Pigneur, Y. (2010). Business Model Generation. London: John Wiley Press. Kim, W.Ch., Mauborgne, R. (2005). Blue Ocean Strategy. Harvard Business School Press. Anthony, Scott D., (2008). "The innovator’s guide to growth. : putting disruptive innovation to work". Johnson, Mark W. (2010). Seizing the white space. Boston: Harvard Business Press. Blank, S., Dorf, B. (2012). The Startup Owner's Manual: The Step-By-Step Guide for Building a Great Company Ries, E. (2011). The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses.

Thesis

Module M-003: Master Thesis

Courses			
Title	**Typ**	**Hrs/wk**	**CP**

Module Responsible	lt. FSPO
Admission Requirements	• According to General Regulations §21 (1): At least 60 credit points have to be achieved in study programme. The examinations board decides on exceptions.
Recommended Previous Knowledge	
Educational Objectives	After taking part successfully, students have reached the following learning results
Professional Competence	
Knowledge	• The students can use specialized knowledge (facts, theories, and methods) of their subject competently on specialized issues. • The students can explain in depth the relevant approaches and terminologies in one or more areas of their subject, describing current developments and taking up a critical position on them. • The students can place a research task in their subject area in its context and describe and critically assess the state of research.
Skills	The students are able: • To select, apply and, if necessary, develop further methods that are suitable for solving the specialized problem in question. • To apply knowledge they have acquired and methods they have learnt in the course of their studies to complex and/or incompletely defined problems in a solution-oriented way. • To develop new scientific findings in their subject area and subject them to a critical assessment.
Personal Competence	
Social Competence	Students can • Both in writing and orally outline a scientific issue for an expert audience accurately, understandably and in a structured way. • Deal with issues competently in an expert discussion and answer them in a manner that is appropriate to the addressees while upholding their own assessments and viewpoints convincingly.
Autonomy	Students are able: • To structure a project of their own in work packages and to work them off accordingly. • To work their way in depth into a largely unknown subject and to access the information required for them to do so. • To apply the techniques of scientific work comprehensively in research of their own.
Workload in Hours	Independent Study Time 900, Study Time in Lecture 0
Credit points	30
Course achievement	None
Examination	according to Subject Specific Regulations
Examination duration and scale	see specific regulations
Assignment for the Following Curricula	Global Technology and Innovation Management & Entrepreneurship: Thesis: Compulsory