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Course Handbook

M. A.

European Master in Project Management–
IT Project Management

(EuroMPM-IT)

Version revC (March 19, 2021)

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Curriculum M. A. European Master in Project Management – IT Project Management (EuroMPM-IT)

Module	Name of the Module	Code Number/ Examination Number	Type	ECTS	Semester (SWS weekly hours / ECTS credits)							
					1st (winter term)		2nd (summer term)		3rd (winter term)		4th (summer term)	
					SWS	ECTS	SWS	ECTS	SWS	ECTS	SWS	ECTS
A	Project Management - Fundamentals	**94010** / 94012	cm	6	4	6						
B	Project Planning and Controlling	**94020** / 94021	cm	6	4	6						
C	Self Management and Social Competence	**94030** / 94031	cm	6	4	6						
D	Transversal Skills	**94040** / 94041	cm	6	4	6						
E	Quality Management and Standards	**94050** / 94051	cm	6	4	6						
F	International Communication and Change Management	**94060** / 94061	cm	6			4	6				
G	Digital Transformation	**94070** / 94071	cm	6			4	6				
H	Leadership & Teams	**94080** / 94081	cm	6			4	6				
I	Multi-Project Management and Organisation	**94090** / 94091	cm	6			4	6				
J	Elective I*	**94200**	em	6			4	6				
K	Elective II*	**94210**	em	6					4	6		
L	Elective III*	**94220**	em	6					4	6		
M	Project Thesis	**94250** / 94251	cm	18						18		
	Thesis (26 weeks)	103	cm	30								30
	sum		SWS		20		20		8		0	
			ECTS	120	30		30		30		30	

cm: compulsory module
em: elective module
*** electives from the catalogue of electives**

Catalogue of Electives	Examination number	SWS (weekly hours)	ECTS (credits)
Digital Business Ecosystems	94300	4	6
Management Systems and Audit	94301	4	6
Managing Digital Change**	94302	4	6
Project Finance, Procurement, Legal Aspects	94303	4	6
Research Seminar	94304	4	6
Agile Management in Virtual Project Environments**	94305	4	6
Global Business Projects	94306	4	6
Implementing Project Management in an Organisation	94307	4	6
Information Processing and Data Analytics**	94308	4	6
Sustainability and Quality	94309	4	6
Trends in Project Management	94310	4	6
Trends in IT-Project Management**	94311	4	6
Modules from partner institutions	94320/21		
Modules from other degree programmes at FH Dortmund*	94330/31		

* If compulsory elective modules of the Ruhr Master School (RMS) are part of the course programmes of Dortmund University of Applied Sciences and Arts (Fachhochschule Dortmund), students must complete the examinations within their own course programme. Upon application, modules of the course programmes participating in the RMS may be elected.

** One of the marked electives is mandatory for the students of Master's course European Master in Project Management – IT Project Management (EuroMPM-IT).

Module A Project Management – Fundamentals

Code Number	Semester	Duration	ECTS-Credits
94011	Sem. 1	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Required course	English	Annually - WT	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Project Management – Fundamentals	**60**	**120**	**180**	**4**

2 Content

This course focuses on the core issues of projects and project management and provides an overview of project characteristics and project management approaches and core methods.

Projects are distinguished from ongoing activities in organizations. Projects have a well-defined goal and scope. Projects have a start and an end. Projects need a special organization - different from ongoing activities. Projects are installed to create something new, a new building, a new application system, or a new application of an existing system. Projects are unique and risky.
In this course the terms and meanings of traditional, agile and hybrid project management as well as multi-project management and standardization of project management are introduced.

Cases are analysed and discussed in order to develop an understanding of projects. The discussions contain the typical project constraints as scope, time, work / budget, stakeholders, risks, etc. as well as criteria for success and failure, project context and organization.

The course shows how projects can be organized and how projects shape organizations, especially when projects become more important than ongoing activities in a projectized organization.
The latest developments concerning traditional, agile und hybrid project management are taught. National and international standards of single- and multi-project management are addressed and linked to the corresponding lectures.

Life cycle concepts shape projects and project management. Stakeholders must be identified and their expectations must be analysed and discussed. Customer relationship must be developed.

There are several kinds of life cycles to be considered in the area of project management:

- Project Life Cycle, which differs more or less from project to project.

	• Project Management Life Cycle, which only differs concerning approaches, standards and or project types. • Product life cycle, which is important to know how this can be separated from project and project management life cycle. The quality of project management is determined by the way life cycles are recognized and implemented. The course shows how project management is shaped by project management associations (PMI®, IPMA®, AXELOS®, etc.), international standards, certificates, etc., and introduces these organizations, standards and certificates. The main trends in project management will be discussed and a link to the other modules and courses will be shown in this module in order to understand the relationship of the curriculum of the EuroMPM. This module contains the following topics: • Characteristics of projects • Separation of projects, processes and operational work • Different types of projects • Success factors of projects • Characteristics of Project Management • Different approaches of Project Management (traditional, agile hybrid) • Life cycle of projects, Project Management, products • Different Standards of Project Management (e.g. DIN, ISO, PMI®, IPMA®, AXELOS®, etc.) • Constraints in Project Management (Scope, Time, Cost, Risks, Organisation, Stakeholders, Communication, etc.) • Trends in Project Management
3	**Learning Outcomes / Competencies** **3.1 Professional Competencies** **3.1.1 Knowledge** The students can • describe the core issues of a project and various types of projects, • explain the difference between projects, processes and operational work, • explain the core issues of goal, scope, and baseline, • explain criteria for success and failure in projects, • describe the core issues of life cycle concepts, • explain the difference between project, Project Management and product life cycles, • explain the concept of stakeholders and the roles of stakeholders in a project, • explain the main Project Management approaches (traditional, agile, hybrid), • know the main constraints of Project Management (Scope, Time, Cost, Risks, Organisation, Stakeholders, Communication, etc.) • explain main standards for project management, • Know the main trends in project management

	3.1.2 Skills The students are able to • analyze and develop goals, scopes, and baselines, • analyze and develop criteria for success and failure, • identify stakeholders and their roles, • analyze and characterize the project organization, • characterize main standards in Project Management • analyze project, Project Management product life cycles, • develop stakeholder management, • decide a suitable Project Management approach in a given context • identify certain trends in Project Management **3.2 Personal Competencies** **3.2.1 Social Competencies** The Students can/know/apply • take into account the developments and trends in project management and balance them to in an project organisation • lead and coordinate teams in a results-oriented fashion, • present and prudently defend team results in a complex and demanding environment, • improve cooperation among human resource in projects and organizations, • handle complexities while working in project teams, • detect the HR competencies needed in a project or in an organization, • develop team competencies among the members **3.2.2 Autonomy** The Students can/know/apply • manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches, • reflect operational challenges of a project, • reflect own performance in a team
4	**Teaching and Training Methods** e.g: Lectures incl. practitioners' best practices, Interactive case studies, Seminar, Case studies, (Short) presentations, Results-oriented presentations in oral and written form • Lectures introducing concepts, methods and tools • Group work to practice concepts and methods, to develop skills and to work on case studies • Home work to add individual contributions • Presentations to communicate results
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**

6	**Assessment** • 50% contributions within the course (homework, group work, presentations, case studies) • 50% written or oral examination at the end of the course
7	**Requirements for Award of Credits** Successful completion of examination**,** Presentation (individual / group)
8	**Module used in other programmes**
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Andre Dechange
11	**Literature** • AXELOS (2017): Managing Successful Projects with PRINCE2. London: The Stationery Office Ltd. • Bea, F.X.; Scheurer, S.; Hesselman, S. (2011): Projektmanagement, 2. Auflage, Konstanz und München • Dechange, André (2020): Projektmanagement – Schnell erfasst, SpringerGabler • Frigenti, Enzo; Cominos, Dennis (2006): The Practice of Project Management, 2nd edition, Kogan Page • Gareis, Roland; Stummer, Michael (2008): Process and Projects, Manz Verlag, Wien • Hedeman, Bert, e.a. (2012): Project Management Based on PRINCE2®, Van Haren Publishing • International Project Management Association IPMA (2015): Individual Competence Baseline 4th version (ICB4) • International Project Management Association IPMA (2019): Organisational Competence Baseline (OCB) • IPMA (2015), ICB 4.0 International Project Management Association IPMA (2018): Project Excellence Baseline for Achieving Excellence in Projects and Programmes) • ISO (2012): ISO 21500 - Guidance on project management. Genf: ISO. • Kerzner, Harold: Project Management (2017): A Systems Approach to Planning, Scheduling and Controlling, John Wiley • Larson, Gray (2017): Project Management - the Managerial Process, 74th edition, McGraw Hill • Morris, Peter W.G.; Pinto, Jeffrey K. (eds.) (2004): The Wiley Guide to Managing Projects, John Wiley

	• Peter Morris, Peter; Pinto, Jeffrey, K. (2007): The Wiley Guide to Project, Program, and Portfolio Management • Project Management Institute (PMI) (2017): A guide to the project management body of knowledge (PMBOK guide) Sixth edition; Agile practice guide. Newtown Square, PA • Schelle, Heinz; Ottmann, Roland; Pfeifer, Astrid (2006): Project Manager, GPM, Nuremberg • Turner, J. Rodney; Simister, Stephen, J. (2016): Gower Handbook of Project Management, Gower Hampshire, England Routledge

Module B Project Planning and Controlling

Code Number	Semester	Duration	ECTS-Credits
94021	Sem. 1	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Required course	English	Annually - WT	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Project Planning	**30**	**60**	**90**	**2**
	Project Controlling	**30**	**60**	**90**	**2**

2 Content

Project Planning

This course focuses on the development of the project plan. Project planning is one of the core activities in project management. It is not just something done before starting the project but a "living" document. The project plan is a tool for managing the project and used for various tasks (e.g. communication, controlling, accounting). Project planning involves the consideration of time/schedule, cost and resources. Additionally, quality and risks are important topics. The parameters are interdependent and changing during project runtime. Project planning has to reflect these dynamics.

The intention of the course is to guide the students through a project planning process. Used as case studies are the planning framework of IPMA, and the planning of a real project case according to IPMA standards. For each planning step the students are introduced to the relevant theoretical concepts. This involves concepts going beyond the scope of the standard, e.g. critical chain project management or modern project cycle models. They apply the concepts to the case study. This guides them into a deep understanding of the different concepts.

A very important part of the project planning (which is not reflected in the IPMA compliant project manual) is the risk management and planning. Risk models and risk classifications form the basis of the risk identification. Risk assessment is done based on tools (especially FMEA) and probabilistic methods. Furthermore, risks are incorporated into schedules and financial plans and the effect is evaluated with Monte Carlo simulations of the plans. Risk contingency and monitoring plans conclude the area of risk management.

An IPMA compliant project manual is developed in group work sessions. This helps the students to understand the different roles in planning and to find a consensus on their view of the project. During this process they learn to see the project plan as a tool for communication and alignment rather than a pure documentation. Relevant aspects of the planning process are compared to the situation in other domains apart from the case study.

	Project Controlling Project controlling consists of activities, methods and tools performed to observe project execution, so that potential problems can be identified in a timely manner and corrective action can be taken. It includes as well the support of decision taking – so controlling starts already by supporting the management to do the right projects. The key benefit is the regular observation and measurement of project performance to identify variances from the project management plan. Project Controlling includes: • Controlling and Project Controlling (theory) • Decision taking (what to do) • Measuring the ongoing project activities (where we are), • Monitoring the project variables (scope, cost, time etc.) against the project management plan and the project performance baseline (where we should be) by the help of reporting tools and Earned Value Management • Identify corrective actions to address issues and risks properly (How can we get on track again), Influencing the factors that could circumvent integrated change control so that only approved changes are implemented.

3	**Learning Outcomes / Competencies**
	
	3.1 Professional Competencies
	3.1.1 Knowledge
	Project Planning
	
	The students can
	• describe the processes of project planning,
	• explain the concept of a project manual according to IPMA,
	• explain the differences and similarities to other standards, especially PMI,
	• know the concept of work breakdown structure,
	• know the concept of a Gantt chart,
	• explain and apply the concept of Critical Path and Critical Chain,
	• explain the concept of a milestone and a milestone checklist,
	• explain the main concepts of risk management
	• know the FMEA as a tool and probabilistic methods
	• explain the incorporation of risks into project plans,
	• explain consequences of large projects for project planning.
	
	Project Controlling
	The students are able to explain
	• core issues of
	  ○ scope control,
	  ○ time control,
	  ○ cost control,
	  ○ risk control,
	  ○ decision taking tools (short or long-term projects).
	• the core concepts of earned value management and its main parameters,
	• the Schedule Variance (SV) in detail,
	• the Time Variance (TV) in detail,
	• the Cost Performance Index (CPI) in detail,

- the Schedule Performance Index (SPI) in detail,
- further indexes of earned value analysis.
- Cost / Benefit analysis
- NPV calculation
- Controlling reports

3.1.2 Skills

Project Planning

The students are able to

- develop a project manual according to IPMA,
- align running activities in developing a project manual,
- develop a WBS, a Gantt chart and a resource plan,
- apply tools like MS Project, MS Excel and the @risk tool
- apply FMEA
- integrate risk estimates into a project plan,
- detect the critical path in a project and assess the sensitivity of the critical path to network changes,
- transfer the information from the case study into a project plan,
- decide about the important and irrelevant parts of a case study,
- handle complexities while working in international teams.

Project Controlling

The students are able to

- analyse progress based on the work breakdown structure and check project scope,
- derive a Milestone Trend Analysis and Gantt chart progress and check project time results,
- analyse data to derive controlling indices,
- calculate the Schedule Variance (SV),
- calculate the Time Variance (TV),
- calculate the Cost Performance Index (CPI),
- calculate the Schedule Performance Index (SPI),
- calculate Estimated-at-Completion (EAC),
- calculate Estimate-To-Completion (ETC),
- perform NPV-calculations to support project decision
- collect the results in a project status report.
- Prepare own and individual project reports

3.2 Personal Competencies

3.2.1 Social Competencies

The Students can lead teams and contribute to teams in a supportive way to reach the team-result. The students are able to plan international tasks (international projects) in international teams (group of students) to achieve the set goal of the given task of professor. The students develop team competencies among the members, supported by business cases.

3.2.2 Autonomy

Students can develop comprehensive project management material based on their own assessment and judgement. They are able to communicate it to others, convince them and defend their decisions.

	The Students can reflect project situations based on facts and figures- and find their own way to recommend a project to be managed or not. Students find their own way to create a Controlling-Cockpit and install the needed reports whatever background the project has (profit-oriented or not profit-oriented).
4	**Teaching and Training Methods** **Project Planning** Based on a case study students will be guided through the development of a project manual. Breakout sessions on more advanced concepts complement the process. **Project Controlling** Lectures incl. practitioners' best practices, Interactive case studies, Seminar, Case studies, Results-oriented presentations in oral and written form, calculations in Excel to perform NPV calculations, goal seek to find out the IRR • Lectures introducing concepts, methods and tools • Group work to practice concepts and methods, to develop skills and to work on case studies • Home work to add individual contributions • Presentations to communicate results
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** • 25% contribution of an IPMA compliant project manual • 25% small written tests during the semester • 50% written examination at the end of the course (60 minutes)
7	**Requirements for Award of Credits** Successful completion of examination, project manual as group work
8	**Module used in other programmes**
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Schönberg

11	**Literature** **Project Planning & Controlling** • AXELOS (2017): Managing Successful Projects with PRINCE2. London: The Stationery Office Ltd. • Fleming,Quentin W.; Koppelman, Joel M. (2010): Earned Value Project Management, 4th edition, PMI • International Project Management Association IPMA (2015): Individual Competence Baseline 4th version (ICB4) • ISO (2012): ISO 21500 - Guidance on project management. Genf • Kerzner, Harold: Project Management (2017): A Systems Approach to Planning, Scheduling and Controlling, John Wiley • Larson, Gray (2017): Project Management - the Managerial Process, 74th edition, McGraw Hill • Morris, Peter W.G.; Pinto, Jeffrey K. (eds.) (2004): The Wiley Guide to Managing Projects, John Wiley • Mulcahy, Rita (2019): Risk Management, 3rd edition, Rmc Pubns Inc. • Peter Morris, Peter; Pinto, Jeffrey, K. (2007): The Wiley Guide to Project, Program, and Portfolio Management • Project Management Institute (2017): A guide to the project management body of knowledge (PMBOK guide) Sixth edition; Agile practice guide. Newtown Square, PA • Turner, J. Rodney; Simister, Stephen, J. (2016): Gower Handbook of Project Management, Gower Hampshire, England Routledge

Module C Self Management and Social Competence

Code Number	Semester	Duration	ECTS-Credits
94031	Sem. 1	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Required course	English	Annually - WT	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Self Management	**30**	**60**	**90**	**2**
	Social Competence	**30**	**60**	**90**	**2**

2 Content

Self Management

In an increasingly complex, globalised, and interdependent world, Self Management becomes more important.
A core requirement before leading other is to know how to lead yourself. This course focuses on the aspects of Self Management, time management and stressmanagement.
This course includes case studies and role play activities to develop skills and competences of students through real situations. The international orientation of the students is utilized to create case studies and role plays which are especially valid for European/ international projects.

Topics include:

- Identification of one's own strengths and weaknesses
- Self-Reflection about own behavior
- Identification of work preferences
- Identification of time savers and time wasters and how to deal with them
- Finding one's elves resources and use them
- Define reachable goals and learn how to prioritize them

Social Competence

Project management is teamwork. Therefore, social competence is an important factor for success. Especially any lack of social competence can cause serious problems and may lead to failure of the complete project.

This course focuses on the aspects of social competence, which are especially relevant for project management (e.g. communication, leadership, team development, conflict management and motivational aspects) As some of these aspects will be taught in other courses (e.g. Self Management, Leadership & Teams), this course adds the open aspects and integrates them all under the general roof of social competence.

This course includes case studies and role play activities to develop skills and competences of students through real situations. The international orientation of the students is utilized to create case studies and role plays which are especially valid for European/ international projects. This offers the opportunity to experience the

	complexities of human interaction with single individuals as well as groups to explore and develop the necessary social competence to manage projects. Topics include: • Communication • Leadership • Team development • Conflict management • motivation
3	**3. Learning Outcomes / Competencies** **3.1 Professional Competencies** **3.1.1 Knowledge** The students • will gain an understanding about Self-Management and Social Competence • know relevant Theory about these topics • know about the importance of Self-Management and socials competence on project management **3.1.2 Skills** Students will experience how they can ... • motivate the team for your project • implement group-dynamic models • cope with difficult situations • handle disturbances in projects • have an impact on others • expand their skills and self-image of project management **3.2 Personal Competencies** **3.2.1 Social Competencies** The students are able to • use concepts of social competence in project management, • evaluate social behaviour • self-reflection of own behavior • observe, evaluate and apply the social context in a situation, • develop self-awareness, self-confidence, self-assurance and self-actualisation and assist others in doing so. **3.2.2 Autonomy** The students are able to • transform theoretical models to their own context • reflect operational challenges of a project • reflect upon own behavior

4	**Teaching and Training Methods** Lectures incl. practitioners' best practices, Interactive case studies, Seminar, Case studies, (Short) presentations, Results-oriented presentations in oral and written form • Lectures introducing concepts, methods and tools • Group work to practice concepts and methods, to develop skills and to work on case studies • Role plays (videotaped for analysis) to experience, observe, evaluate and train behaviour in different contexts • Home work to add individual contributions • Presentations to communicate results
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** • 50% contributions within the course (homework, group work, presentations, case studies) • 50% written or oral examination at the end of the course
7	**Requirements for Award of Credits** -
8	**Module used in other programmes**
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Dechange M.Sc. Anna-Maria Muck
11	**Literature** • AXELOS (2017): Managing Successful Projects with PRINCE2. London: The Stationery Office Ltd. • International Project Management Association IPMA (2015): Individual Competence Baseline 4th version (ICB4) • ISO (2012): ISO 21500 - Guidance on project management. Genf • Ayas, K. (1996). Professional project management: A shift towards learning and a knowledge creating structure. *International Journal of Project Management, 14*, 131–136.

- Christian Majer, Luis Stabauer (2010): social competence im Projektmanagement (in German), Goldegg Verlag
- Kerzner, Harold: Project Management (2017): A Systems Approach to Planning, Scheduling and Controlling, John Wiley
- Heckhausen, J., & Heckhausen, H. (2008). *Motivation and action*. New York: Cambridge University Press, 2nd edition, 2008.
- International Project Management Association IPMA (2015): Individual Competence Baseline 4th version (ICB4)
- König, C. J., & Kleinmann, M. (2006): Selbstmanagement. [Self-management]. In H. Schuler (Hrsg.), *Lehrbuch der Personalpsychologie*, 331–348. Göttingen: Hogrefe.
- Lee-Kelley, L., & Loong, K. L. (2003): Turner's five-functions of project-based management and situational leadership in IT services projects. *International Journal of Project Management, 21*, 583–591.
- Norma C. Lang (2010): Group Work Practice to Advance Social Competence: A Specialized Methodology for Social Work, Columbia Univ
- Project Management Institute (2017): A guide to the project management body of knowledge (PMBOK guide) Sixth edition; Agile practice guide. Newtown Square, PA.
- Ronald Haccou, Ben Van Hamond 2006): Gaining & Proving Yourself in Social Competence: The Atlas Way, Garant Uitgevers, N V
- Uhl- Bien, M., & Graen, G. B. (1998): Individual self-management: Analysis of professionals' self- managing activities in functional and cross-functional work teams. *Academy of Management Journal, 41*, 340–350.

Module D Transversal Skills

Code Number	Semester	Duration	ECTS-Credits
94041	Sem. 1	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Required course	English	Annually - WT	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Transversal Skills	**30**	**60**	**90**	**2**
		30	**60**	**90**	**2**

2 Content

The course is a tailored program to provide several smaller training units to the students. In the initial set up of the master a selection of up to 6 courses are offered. Students have to choose at least 4 training units. For students without at least German A1, the German course is mandatory. More can be added according to the analysis of the needs of actual students:

1. Research Methods and Tools – part A (RMT-A): Introduction to scientific methods and tools in the PM domain. Furthermore, analysis of relevant scientific trends and communities. Students will be prepared via the sequence of RMT-A and RMT-B to publish a first paper at the annual Dortmund International Research Conference.
2. Cross-Border Project A: During the November Master block week or a workshop at a partner university, projects with teams of students from several partners are formed. They conduct projects, e.g. on industry cases.
3. Intercultural Training and introduction to a partner country: Specifically for the partner countries Spain, Norway, Lithuania, Belgium and Ukraine preparation courses are conducted to motivate students for exchange.
4. ECDL-Excel/-Powerpoint/-Word: students who lack relevant IT skills can take part in the preparation courses for the European Computer Driver License at FH Dortmund and do the respective exams.
5. International Project Communication 1 (German A1): A language certificate of German at least on level A1 has to be provided at the end of the semester. Respective courses are organized and embedded into the weekly schedule.
6. International Project Communication 1e (English C1): For students with sufficient German knowledge, the English C1 certificate can be obtained.

3 Learning Outcomes / Competencies

3.1 Professional Competencies

3.1.1 Knowledge

The students can

• explain research methods and tools of the PM domain

	• explain and compare the culture of different partner countries • explain tools like MS Word and MS Powerpoint • use German vocabulary and grammar at least on A1 level • use English vocabulary and grammar at least on C1 level **3.1.2 Skills** The students are able to • apply research methods and tools of the PM domain • execute smaller cross-border projects in international teams • understand the culture of different partner countries and adapt to it • use tools like MS Word and MS Powerpoint • speak, understand, read and write German at least on A1 level • speak, understand, read and write English at least on C1 level **3.2 Personal Competencies** **3.2.1 Social Competencies** • Students can cooperate in a cross-border project with international students. • Students can adapt and to cope with different European cultures • Students learn to communicate with people from different countries **3.2.2 Autonomy** Students take decisions on the project execution based on their judgement and on team consensus. They independently set their priorities in a given course portfolio.
4	**Teaching and Training Methods** 1. Research Methods and Tools – part A (RMT-A): lecture 2. Cross-Border Project A: project and presentation 3. Intercultural Training and introduction to a partner country: lecture 4. ECDL-Excel/-Powerpoint/-Word: tool training 5. International Project Communication 1 (German A1): language training 6. International Project Communication 1e (English C1): language training
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** 1. Research Methods and Tools – part A (RMT-A): oral or written exam 2. Cross-Border Project A: project result presentation. 3. Intercultural Training and introduction to a partner country: oral or written exam 4. ECDL-Excel/-Powerpoint/-Word: written (computer based) test leading to official certificate 5. International Project Communication 1 (German A1): official language certificate obtained from a language school

	6. International Project Communication 1e (English C1): official language certificate obtained from a language school
7	**Requirements for Award of Credits** Successful completion of at least 2 out of 6 courses
8	**Module used in other programmes** Master Digital Transformation, Master Embedded Systems
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Wolff
11	**Literature** Specific material for each course

Module E Quality Management and Standards

Code Number	Semester	Duration	ECTS-Credits
94051	Sem. 1	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Required course	English	Annually - WT	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Standards and Mainstreaming	**30**	**60**	**90**	**2**
	Managing Quality	**30**	**60**	**90**	**2**

2 Content

Standards

This course is a core element of the study programme with strong links to most other courses. The course gives an overview of standards in general and going on with important standards in project management. Standards of the International Organization for Standardization, and standards of project management associations like IPMA, PMI, AXELOX, AIMP, and APM are discussed.

The scope, the differences and the application of standards as well the different project management approaches are in the focus of the course.

This course mainly covers the following topics

- Standards in general
- Overview and differences of Project Management standards
- ISO 21.500
- PMBOK
- ICB; OCB
- Prince2
- Agile Framworks (SCRUM; LESS, SAFe, etc.)
- Further standards used in Project Management (ISO standards)
- Characteristics of company standards

Quality Management

This course provides an introduction to quality management. Principles of quality management shape project management, principles like: Customer focus, leadership, involvement of people, process approach, system approach to management, and factual approach to decision making. For some of these principles the core area is in other courses like MP06 on human resource management or MP14 on creativity and decision making. In MP08 there is a main focus on processes and systems. Methods and tools for the description of processes are analysed and

	applied. Event process chains and business process management are included. Tools like ARIS, ARIS express, and Visio are used. Quality management is a knowledge area of project management according to PMBOK for example. Concepts and processes of this knowledge area are discussed. Quality management standards are discussed, the ISO9000 family and also EFQM. A special role plays ISO 10006 with guidelines for quality management in projects. In addition, concepts as Six Sigma, Total Quality Management, Lean Project Management and the Project Excellence Model will be introduced. Quality management processes are developed in case studies, as well modules of a quality system and a quality manual. In addition, special emphasis is laid on the modern understanding of quality management for projects based on scientific literature.
3	**Learning Outcomes / Competencies** **3.1 Professional Competencies** **3.1.1 Knowledge** **Standards** The students can explain • the core aspects of standards in general and in project management, • the core concepts of PMBOK (knowledge areas, process groups and processes – and important links among processes), • the concepts of ISO 21.500, 9000, ISO 14000, ISO 26000 and the links among these standards, • The main characteristics of the ICB concept • The main characteristics of PRINCE2 • The main characteristics of SCRUM • the role of standards in the description and certification of competences, • The benefits of company Project Management standards **Quality** Management The students are able to explain • core issues of quality management, • principles and process of quality management according to ISO, • the concept of a quality system, • structure and content of a quality manual, • concepts and processes of the knowledge area of quality in project management standards, • core methods and tools of quality management (cause-effects analysis, failure mode effects analysis, etc.), • methods and tools for the description and for the development of processes (EPC, BPM, etc.). • relevant theories and concepts about TQM, Six Sigma, Lean Project Management and the Project Excellence Model • relevant concepts and methods from recent and core project management and quality management publications

	3.1.2 Skills **Standards** The students are able to • analyse standards, compare standards and detect gaps and weaknesses, • adapt standards and guidelines for projects based upon the international standards, • develop processes for project management and select and apply appropriate tools and techniques supporting these processes. • Apply standards in project management **Quality** Management The students are able to • apply methods and tools of quality management (cause-effects analysis, failure mode effects analysis, etc.) in selected cases, • apply methods and tools for the description and for the development of processes (EPC, BPM, etc.) in selected cases, • design a limited quality system in a case study • critically analyze and follow up on scientific publications in major project management and quality management journals **3.2 Personal Competencies** **3.2.1 Social Competencies** The Students can/know/apply • handle complexities while working in international teams, • Students develop an attitude to project management according to standards • Students show a quality attitude according to standards • Students manage projects based on structured and well defined processes and in depth analysis • Students can achieve high effectiveness and efficiency in running complex projects • a deep understanding of the core competencies according to Project Management Standards (PMBoK; ICB or similar standards) **3.2.2 Autonomy** The Students can/know/apply • manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches, • reflect operational challenges of a company in the background of social values, • the interplay between economic regulation and institutional framework and the strategic outline of a company and is able to derive an own mind on it, • work out independent projects and ideas and can do what is necessary to carry out a sustainable management initiative,
4	**Teaching and Training Methods** Lectures incl. practitioners' best practices, Interactive case studies, Seminar, Case studies, (Short) presentations, Results-oriented presentations in oral and written form • Lectures introducing concepts, methods and tools

	• Group work to practice concepts and methods, to develop skills and to work on case studies • Semester assignments or scientific papers to add individual contributions • Presentations to communicate results
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** • 50% contributions within the course (homework, group work, presentations, case studies) • 50% written or oral examination at the end of the course
7	**Requirements for Award of Credits** Successful completion of examination**,** Presentation (individual / group)
8	**Module used in other programmes**
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Dechange Nuseibah
11	**Literature** **Standards:** • AXELOS - selected documents • AXELOS (2017): Managing Successful Projects with PRINCE2. London: The Stationery Office Ltd. • Bea, F.X.; Scheurer, S.; Hesselman, S. (2011): Projektmanagement, 2. Auflage, Konstanz und München • Dechange, André (2020): Projektmanagement – Schnell erfasst, SpringerGabler • http://agilemanifesto.org/iso/de/ • International Project Management Association IPMA (2015): Individual Competence Baseline 4th version (ICB4) • IPMA selected documents • ISO - selected documents. • ISO (2012): ISO 21500 - Guidance on project management. Genf

- Kerzner, Harold: Project Management (2017): A Systems Approach to Planning, Scheduling and Controlling, John Wiley
- Larson, Gray (2017): Project Management - the Managerial Process, 74th edition, McGraw Hill
- PMI selected documents
- Project Management Institute (2017): A guide to the project management body of knowledge (PMBOK guide) Sixth edition; Agile practice guide. Newtown Square, PA: Project Management Institute
- Schelle, Heinz; Ottmann, Roland; Pfeifer, Astrid (2006): Project Manager, GPM, Nuremberg
- SCRUM Guide,

Quality Management:

- Anttila, J. (1992): Standardization of quality management and quality assurance: a project viewpoint. *International Journal of Project Management*, *10*(4), 208–212. https://doi.org/10.1016/0263-7863(92)90079-O
- Banuelas Coronado, R., & Antony, J. (2002): Critical success factors for the successful implementation of six sigma projects in organisations. *The TQM Magazine*, *14*(2), 92–99. https://doi.org/10.1108/09544780210416702
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- Hilton, R. J., & Sohal, A. (2012): A conceptual model for the successful deployment of Lean Six Sigma. *International Journal of Quality & Reliability Management*, *29*(1), 54–70. https://doi.org/10.1108/02656711211190873
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- Project Management Institute (2017): A guide to the project management body of knowledge (PMBOK guide) Sixth edition; Agile practice guide. Newtown Square, PA: Project Management Institute

- Schelle, Heinz; Ottmann, Roland; Pfeifer, Astrid (2006): Project Manager, GPM, Nuremberg.
- Turner, J. R., & Cochrane, R. A. (1993). Goals-and-methods matrix: coping with projects with ill defined goals and/or methods of achieving them. *International Journal of Project Management*, *11*(2), 93–102. https://doi.org/10.1016/0263-7863(93)90017-H
- Westerveld, E. (2003). The Project Excellence Model : linking success criteria and critical success factors. https://doi.org/10.1016/S0263-7863(02)00112-6PMBOK® - 4th edition, PMI® 2008.

Module F International Communication and Change Management

Code Number	Semester	Duration	ECTS-Credits
94061	Sem. 2	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Required course	English	Annually - ST	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	International Co-operation and Communication	**30**	**60**	**90**	**2**
	Change Management	**30**	**60**	**90**	**2**

2 Content

International Co-operation and Communication

In international projects, people from various cultures need to co-operate in a *situational context*, and in such a context, many differing views on values, methods, procedures and so forth come together in people's individual *role behaviours*. The essential co-ordination of role behaviours in an international project depends on an adequate understanding of such behaviours both in their verbal and non-verbal forms.

People's role behaviour is influenced by the way they understand, and respond to, the situational context, and their perspective of this has as a rule been developed during their enculturation in a particular community. As a result, they are strongly influenced by the notions prevalent in their culture. Understanding other people's role behaviour can therefore not be separated from understanding cultural differences in the way people interpret and ascribe meaning to situational contexts.

This course therefore focuses on the situational context of international projects, especially from differing cultural perspectives and their effects on role behaviours.

Topics include

- Matsumoto's template of situations
- Senge and Argyris' Ladder of Inference
- Human universals
- Culture and personality
- Understanding and assessing role behaviour
- Understanding situational contexts
- The meaning of settings
- The roles of participants
- The meaning of social roles
- Expectations and emotions
- The nature and role of normative behaviours

Change Management

Project management and change management are strongly linked.

	Projects are often initiated because there is a need for changes in an organization. It must be checked which kind of changes an organization is willing and able to follow. Projects in many cases cause changes in organizations. The impact of projects on organizations and all stakeholders has to be checked. Change management has a technical and organizational side dealing with changes in processes, in roles and responsibilities. Change management has also a human side - and project managers must check if people effected by a project will follow and are able to follow. In many cases the human side is more difficult and risky than the technical or organizational side. At the technical side of change management we have to deal with change requests. Changes in projects must be identified, checked, and confirmed.
3	**Learning Outcomes / Competencies** **3.1 Professional Competencies** **3.1.1 Knowledge** **International Co-operation and Communication** The students are able to • Explain the components of situations of interaction • Explain the relationship between role behaviour and situational context • Explain the understanding of role behaviours as the re-construction of mental processes through observing behaviour • Explain the role of culture in the attribution of meaning to situational contexts and role behaviours **Change Management** The students can explain • core aspects of changes - types of changes, needs and reasons for change, aims of change, • the role of change drivers, change opponents and change agents, • an organizational change by using object role models describing the situation before and after changes, • the role of stakeholders in change management and their responsibilities, interests and impacts, • how to manage a change process, how to deal with change requests, • impact analysis and sensitivity analysis, the role of value management in change management. **3.1.2 Skills** **International Co-operation and Communication** The students are able to • Analyse descriptions of proto-typical situational contexts • Analyse differences in the way cultures attribute meanings to situational contexts and role behaviours

- Analyse their own and others' perspectives of situational contexts and role behaviours
- Analyse concrete situational contexts in which they interact with others
- Apply their insights when managing project-related co-operation in international situational contexts

Change Management

The students are able to

- analyse the main reasons and perspectives of changes in selected cases,
- analyse the impact of changes by influence analysis and sensitivity analysis in selected cases,
- prepare change by using simulation models in selected cases,
- develop change management concepts in selected cases.

3.2 Personal Competencies

3.2.1 Social Competencies

International Co-operation and Communication

The Students

- develop a deeper understanding of their own and others' role behaviours
- develop fresh perspectives of situational contexts by escaping from the "ladder of inference"
- can negotiate differences in the assessment of role behaviours
- know how to optimise situational contexts for international co-operation
- can successfully participate in teams in a results-oriented fashion, and lead and coordinate such teams,
- can present and defend team results in a complex and demanding environment.

3.2.2 Autonomy

International Co-operation and Communication

The Students

- can identify the challenges of international co-operation and can develop strategies to meet them
- are able to interpret information about different cultures and can assess how cultures are likely to affect situational contexts in international projects
- are able to distinguish between personality characteristics and cultural characteristics and avoid stereotyping
- are aware of the emotional responses likely to emerge in situations of international co-operation and know how to deal with them.

Change Management

The Students can/know/apply

- manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches,
- reflect operational challenges of a company in the background of social values,
- the interplay between economic regulation and institutional framework and the strategic outline of a company and is able to derive an own mind on it,
- work out independent projects and ideas and can do what is necessary to carry out a sustainable management initiative,

4	**Teaching and Training Methods** **International Co-operation and Communication** • Lectures introducing concepts and methods • Class discussions • Group work to practice concepts and methods, to develop skills and to work on case studies • Home work to add individual contributions • Presentations to communicate results
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** **International Co-operation and Communication** • 50% contributions within the course (presentations) • 50% written examination at the end of the course (60 minutes) **Change Management** • 50% contributions within the course (homework, group work, presentations, case studies) • 50% written or oral examination at the end of the course
7	**Requirements for Award of Credits** Successful completion of examination**,** Presentation (individual / group)
8	**Module used in other programmes**
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Drs. De Jongste Torvatn
11	**Literature** **International Co-operation and Communication** • Matsumoto, David (2007): Culture, Context, and Behavior, Journal of Personality, 75(6), 1285-1319.

- Burgoon, Judee K.; Ebesu Hubbard, Amy S. (2005): Cross-cultural and intercultural applications of expectancy violations theory and interaction adaptation theory. In Gudykunst, William B.: Theorizing about intercultural communication. Sage: 149–171.
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- Bhagat, Rabi S.; Steers, Richard M. (eds.) (2009): Cambridge Handbook of Culture, Organizations, and Work. Cambridge University Press
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- Nakata, Cheryl (ed.): Beyond Hofstede (2009): Culture Frameworks for Global Marketing and Management. Palgrave
- Tomalin, Barry; Nicks, Mike (2010): The World's Business Cultures and How to Unlock Them, Second Edition. Torogood

Change Management

- AXELOS (2017): Managing Successful Projects with PRINCE2. London: The Stationery Office Ltd.
- Cameron, Esthert (2015); Green, Mike: Making Sense of Change Management, 42nd edition, Kogan Page London
- Cummings, Thomas and Worley, Christopher: Organization Development & Change, 10th Edition, Cengage Learning. ISBN: 978-1-133-19405-5
- Dallas, Michael; Langdon, Davis (2010): Management of Value, OGC, APM Group und Stephanie Clackworthy von Stationery Office, London
- Gardner, Howard: Changing Minds (2006): The art and science of changing our own and other peoples mind, Harvard Business Review Press
- Harvard Business Review on Knowledge Management (Harvard Business Review Paperback Series) by Peter Ferdinand Drucker, David Garvin, Dorothy Leonard, Susan Straus, John Seely Brown, Publisher: Harvard Business School Press 1998.
- International Project Management Association IPMA (2015): Individual Competence Baseline 4th version (ICB4)
- Kotter, John (1996): Leading Change, Harvard Business School Press
- Kotter, John; e.a. (2005): Harvard Business Review on Change, Harvard Business School Press
- Morris, Peter (2004): Translating Corporate Strategy into Project Strategy, PMI
- Project Management Institute (2017): A guide to the project management body of knowledge (PMBOK guide) Sixth edition; Agile practice guide. Newtown Square, PA: Project Management Institute
- Sadler, Philip: Designing organizations (1994): The foundation for excellence,Mercury Books
- Schelle, Heinz; Ottmann, Roland; Pfeifer, Astrid (2006): Project Manager,Nuremberg, GPM

	• Schindler, M.; Eppler, M. J.: Harvesting Project Knowledge: A Review of Project Learning Methods and Success Factors. In: International Journal of Project Management 21 (2003), pages 219-228. • Senge, Peter (2006): The Fifth Discipline, Currency • Trompenaars, Fons; e.a. (2005): Managing Change – across corp. cultures, Capstone

Module G Digital Transformation

Code Number	Semester	Duration	ECTS-Credits
94071	Sem. 2	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Required course	English	Annually - ST	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Digital Transformation Projects	**30**	**60**	**90**	**2**
	IT for Project Management	**30**	**60**	**90**	**2**

2 Content

This course addresses two aspects related to project management and digital transformation. The first aspect is that the digital transformation is subject to projects. The digital change is planned, organized, managed and executed with projects. Therefore, prospective project managers need to understand the basic concepts of the digital transformation as a major trend. They need to know what they manage to be successful.

The second aspect is that the digital transformation has implications of the processes, methods and tools in project management. Projects are managed by using digital tools and by establishing virtual organizations. Digital tools enable project managers to work in a new way which is often much more agile than in the past. The competence for using such tools and selecting the right IT environment for a project is crucial.

1. Digital Transformation
1.1 Introduction
1.2 Modern IT Concepts
1.3 Concept of the Information Supply Chain
1.4 Digital Business Ecosystems

2. Managing Digital Change
2.1 Characteristics and Challenges of Digital Change
2.2 Project Management in for Digital Change
2.3 User and Stakeholder Involvement in Digital Change

3. IT Tools for Project Management
3.1 Tools for Planning and Risk Management
3.2 Tools for Data Analytics
3.3 Tools for Collaboration in Teams
3.4 Tailoring tool environments to project needs

3	**Learning Outcomes / Competencies** **3.1 Professional Competencies** **3.1.1 Knowledge** The students can • explain core IT concepts and technologies • explain and compare information supply chains • explain digital business models • explain methods for user participation in the process • knows relevant IT tools for planning, data analysis and collaboration **3.1.2 Skills** The students are able to • analyze information supply chain • analyze and understand digital business ecosystems • develop tailored processes for managing IT projects • use IT tools for project management understand IT environments for collaboration in virtual teams in a given context in the course. **3.2 Personal Competencies** **3.2.1 Social Competencies** Students • train to cooperate in a virtual team via collaboration tools • present and prudently defend individual and team results in a complex and demanding environment, • handle complexities while working in international teams, • engage effectively in discussions concerning the relevance and appropriateness of different management models and frameworks, both in general academic terms and in the context of particular companies and / or project situations and environments. **3.2.2 Autonomy** Students can • take decisions on the setup of IT environment for project management based on their judgement and on team consensus. • manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches, • reflect challenges of digitalisation in the background of social values on the basis of a management simulation, • analyze the strategic issues facing a particular project in a logical and disciplined manner, • work independently under pressure of time and make decisions on the organization of their work.

4	**Teaching and Training Methods** Students will be introduced to technologies, knowledge and tools by lectures and online-material (e.g. tutorial). They will gain practical skills by using IT tools. • Lectures introducing concepts, methods and tools • Group work in using tools and operating tool environments • Home work to add individual contributions by doing a scientific analysis on topics in the context of information supply chains, digital business ecosystems and managing digital change • Presentations to communicate results
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies**: relevant skills and knowledge in PC based and cloud based IT tools (e.g. Office, Database, MS Project, SAP)
6	**Assessment** • 50% contributions within IT tool tutorials and trainings (e.g. passing ECDL exams, providing training certificates) • 50% written or oral examination at the end of the course
7	**Requirements for Award of Credits** Successful completion of examination and tool trainings
8	**Module used in other programmes**
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Reimann Prof. Dr. Wolff
11	**Literature** L. Herbert: Digital Transformation: Build Your Organization's Future for the Innovation Age, Bloomsbury Business, 1st edition, 2017

	N. Perkin: Agile Transformation: Structures, Processes and Mindsets for the Digital Age, Kogan Page, 1st edition, 2019 M. Raskino, G. Waller: Digital to the Core: Remastering Leadership for Your Industry, Your Enterprise, and Yourself, Routledge, 1st edition, 2016 E. Ries: The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses, Currency, 1st edition, 2011 A. Ustundag, E. Cevikcan: Industry 4.0: Managing The Digital Transformation, Springer Series in Advanced Manufacturing, 1st edition, 2018 G. Westermann, D. Bonnet, A. McAfee: Leading Digital: Turning Technology into Business Transformation, Harvard Business Review Press, 2013 F. Nashira, A. Nicolai, P. Dini, M.L. Louarn, L.R. Leon: Digital Business Ecosystem. European Commission, 2010 S. Sun, J. Yen: Information Supply Chain: A Unified Framework for Information-Sharing, P. Kantor et al. (Eds.): ISI 2005, LNCS 3495, pp. 422 – 428, 2005

Module H Leadership & Teams

Code Number	Semester	Duration	ECTS-Credits
94081	Sem. 2	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Required course	English	Annually - ST	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Leadership & Teams	**60**	**120**	**180**	**4**

2 Content

- Introduction: Human Resource Management in Projects
- The Role of Human Resources in Projects
- Key Functions of Human Resource Management in Projects
- Human Resource Planning, Selection, Performance Management, Training
- Team Building
- Motivation, Engagement, and Commitment
- Leadership
- Communication
- Organizational Development and Change Management
- Health and Safety

Course description:
Professional Human Resource Management is a crucial factor for every project's effectiveness and success. However, even today it is often still underestimated.
Human Resources for projects must be selected carefully and qualified accordingly. Building and developing a proper project team is one of the key success factors. Leadership in projects without having disciplinary responsibility is probably one of the most challenging leadership roles you can take in an organization. Leadership styles themselves shape the framework of collaboration within a project. Moreover, the application of soft skills is essential for every modern project manager and an important success factor (e. g. use of conflict management skills, intercultural or remote communication, negotiation).

This course aims to familiarize students with current approaches in Human Resource Management in Projects - including the respective recent research fields. It illustrates and elaborates how students can apply their HRM knowledge and skills for own future projects.

3 Learning Outcomes / Competencies

3.1 Professional Competencies
3.1.1 Knowledge

The students can/know/apply

- the importance and crucial role of Human Resource Management in Project Management,
- key functions and concepts of HRM and their impact on the project's success (like employee planning, recruitment/ resourcing, selection, performance management, remuneration, training and development)
- core issues of human resource organization in projects, e.g. approaches and activities for team building and managing,
- different approaches on how to influence motivation and engagement effectively,
- the specific leadership role in project management and how to cope with it successfully,
- concepts of managing oneself,
- important soft skills and tools in project management like feedback, conflict management, principles of intercultural or remote communication,
- the International Labour Standards on Occupational Safety and Health.

3.1.2 Skills

The Students can/know/apply

- manage varying HR-specific challenges in projects by applying adequate tools and methods in different HR functions (identifying HR competencies, job analysis, job description, recruitment, selection, performance management etc.),
- develop tailored concepts for the organization of human resources in a project,
- team building principles and adapt them to specific situations,
- different concepts of motivation to influence individual team members and the team as a whole,
- different leadership roles suitable for the situation and the respective team members,
- how to manage themselves also in challenging project situations under pressure,
- different communication styles depending on the target group / stakeholders,
- manage diverse teams and are able solve conflicts in projects based on current methods and tools.

3.2 Personal Competencies

3.2.1 Social Competencies

The Students can/know/apply

- handle work or study contexts that are complex, unpredictable and require new strategic approaches,
- how to compose an efficient team with the help of competence management
- lead and coordinate both teams and themselves as an individual in the team in a motivating and results-oriented way,
- how to cope with complexities while working in diverse international teams,
- improve cooperation and in and among groups while applying appropriate methods, tools and soft skills,
- persuasively present individual and team results that refer to complex and demanding assessments/conditions.

	3.2.2 Autonomy The Students can/know/apply • try, apply and further develop appropriate concepts of HRM in project management, • reflect themselves in their future project management role in order to develop individual leadership approaches, -roles and –styles in project management, • link their experiences and knowledge in HRM with other project-related topics / principal company issues and discuss how to handle potential frictions successfully • leadership skills to enable them to build on their work experience, as part of their professional development, to become leaders capable of managing major projects and programmes in international, complex strategic contexts.
4	**Teaching and Training Methods** Lectures incl. practitioners' best practices, interactive case studies, group working activities, role plays, short presentations, results-oriented presentations in oral and written form • Lectures introducing theoretical frameworks, concepts, methods and tools • Group work to practice concepts and methods, to develop skills and to work on case studies • Home work to add individual contributions • Presentations for communication, discussion and reflection of results
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** • Examination (60 minutes) (75%) and • Continuous assessment (coursework assignment – 5 pages, presentation – 30 min.) (25%)
7	**Requirements for Award of Credits** Successful completion of examination and assessment in course (presentation individual / group)
8	**Module used in other programmes**
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75

10	**Module Leader** Prof. Dr. Kiunke Prof. Dr. Wetekamp
11	**Literature** • Armstrong, Michael (2016): Armstrong's Handbook of Management and Leadership for HR, 4th edition, Philadelphia • AXELOS (2017): Managing Successful Projects with PRINCE2. London: The Stationery Office Ltd. • Boxall, P. Purcell, J., Wright, P. (2008): The Oxford Handbook of Human Resource Management, Oxford University Press • Dowling, P (2017): International Human Resource Management, Cengage Learning EME • International Project Management Association IPMA (2015):Individual Competence Baseline 4th version (ICB4 • Project Management Institute (2017): A guide to the project management body of knowledge (PMBOK guide) Sixth edition; Agile practice guide. Newtown Square, PA: Project Management Institute

Module I Multi-Project Management and Organisation

Code Number	Semester	Duration	ECTS-Credits
94091	Sem. 2	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Required course	English	Annually - ST	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Multi-Project and Project Portfolio Management	**30**	**60**	**90**	**2**
	Project and Program Organisation	**30**	**60**	**90**	**2**

2 Content

Multiproject Management and Portfolio Management

Multi Project Management (MPM) encompasses all management activities for selection, prioritisation, planning, balancing, and controlling several project in an organization.
The portfolio of a company in the sense of Project Portfolio Management (PPM) is a collection of components (projects, programs, other work to be done) to reach the strategic business objectives of the company.

Programs are collections of components (projects, other work to be done) with a common goal.

Agile approaches on Multi project Management level as LeSS (Large Scale Scrum) and SAFe (Scaled Agile Framework) are part of the content.

The course considers developments in Multi project management from different points of view, e.g. standardization, research, agile. The course follows the standards of PMI, Axeloss, and IPMA.

This course deals with:

- Main characteristics of Multi-project Management
- Differentiation from Portfolio Management and pograms
- Different functions and areas of MPM, e.g. Resource Management
- Characteristics and concept of Project Portfolio Management
- Organisation and standardization of MPM (e.g. IPMA (OCB, PEB, ICB, PCB); PMI (PMBOK, OPM), Anxelos (MoP, P3M3,P3O),
- Agile multi-project management approaches (e.g. LeSS and SAFe)Maturity Models (see above “standardisation”)
- The PMO concept

Project and Program Organisation

This course deals with

- organizational structures of projects and programsroles and resonsibilities of project team members

	• competencies of project team members • Organisation of different project members • stakeholders and the project environment. Roles and responsibilities in projects are linked to competences to meet the requirements for roles and responsibilities in projects. The course "Project Organisation" encompasses but not limited to: 1. Types of organizations • Functional organization • Projectized organization • Matrix organization 2. Organizations for agile project management 3. Roles and responsibilities in organizations • Overview of roles and responsibilities along the list of stakeholders • The impact of roles and responsibilities Description of responsibilities according to defined formats (RACI-Format: R Responsible, Accountable, C Consult, I Inform; and further formats)
3	**Learning Outcomes / Competencies** **3.1 Professional Competencies** **3.1.1 Knowledge** **Multi-Project and Portfolio Management** The students are able to explain • the core concepts of projects, programs, and portfolios • the characteristics of Multi Project Management • the characteristics of Project Portfolio Management • the core concepts and roles of PMO (Project Management Office) **Project and Program Organisation** The students are able to explain • . • concepts of functional organization, projectized organization and matrix organization. • the core issues of project organization: Project manager, project team, organizational environment, etc. • the impact of programmes and portfolios on project organization. the differences the classical approaches of project organization and the approaches in agile project management (SCRUM, etc.). **3.1.2 Skills** **Multi Project and Portfolio Management** The students are able to

	• analyse programs and portfolios, • develop elementary programs and portfolios, • develop processes for programs and portfolios, • apply selected methods and tools for program and portfolio management - regarding scope management or risk management • distinguish between the PPM point of view on the one hand and the strategic management point of view on the other hand, design a PMO (Project Management Office). **Project and Program Organisation** The students are able to • develop concepts for the organization of a project in selected cases. • detect the limits, opportunities and risks in the different approaches of project organization • analyse influences of different organization on projects and programs • develop concepts for different organization of a projects (agile, traditional, hybrid) • solve the problems a.m. different type of project organisations **3.2 Personal Competencies** **3.2.1 Social Competencies** The Students can/know/apply • lead and coordinate large, interdisciplinary and international teams in different type of organisation, • present and prudently defend team results in a complex and demanding environment, • improve cooperation among human resource in projects and organizations based upon appropriate policies and strategies, • handle complexities while working in temporary organisation, • develop team competencies among the members, **3.2.2 Autonomy** Students can/know/apply • manage and transform work or study contexts that are complex, unpredictable and require new approaches, • reflect operational challenges of a project, programmes, portfolios in a temparay and permanent organisation, • analyse and develop standards for a company
4	**Teaching and Training Methods** e.g: Lectures incl. practitioners' best practices, Interactive case studies, Seminar, Case studies, (Short) presentations, Results-oriented presentations in oral and written form • Lectures introducing concepts, methods and tools • Group work to practice concepts and methods, to develop skills and to work on case studies • Home work to add individual contributions

	• Presentations to communicate results
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** • 50% contributions within the course (homework, group work, presentations, case studies) • 50% written or oral examination at the end of the course
7	**Requirements for Award of Credits** Successful completion of examination**,** Presentation (individual / group)
8	**Module used in other programmes**
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Dechange Dr. Erasmus
11	**Literature** • AXELOS, (2017): Managing Successful Projects with PRINCE2. London: The Stationery Office Ltd. • Bea, F.X.; Scheurer, S.; Hesselmann, S. (2011): Projektmanagement, 2. Auflage, Konstanz und München • Brown, James T.: The Handbook of Program Management (2014): How to Facilitate Project Success with Optimal Program Management,2nd edition, 201408, ISBN 978-0071494724. • Dechange, A.; Friedrich, B. (2013): *Multiprojektmanagement in der Energiewirtschaft* in: Lau, C; Dechange, A; Flegel, T. (Hrsg.): *Projektmanagement im Energiebereich*, Springer Verlag, Wiesbaden, S. 101 – 124 • Dechange, A.; Lau, C. (2008): Effiziente und erfolgreiche Implementierung von Projekt Management Offices in: Steinle, Eßeling und Eichenberg (Hrsg.) (2010): *Handbuch Multiprojektmanagement und –controlling – Projekte erfolgreich strukturieren und steuern*. 2. Auflage. Erich Schmidt Verlag, S. 69 – 86

- Dechange, André (2020): Projektmanagement – Schnell erfasst, SpringerGabler
- Gerald I. Kendall; Steve C. Rollins (2003): Advanced Project Portfolio Management and the PMO,
- Green, Allen R.; Levin, Ginger (2013): Implementing Program Management: Templates and Forms Aligned with the Standard for Program Management,
- Hill, G. (2004): *The Complete Project Management Office*. Auerbach Publications
- International Project Management Association IPMA - Individual Competence Baseline 4th version (ICB4), 2015
- International Project Management Association IPMA (2015): Individual Competence Baseline 4th version (ICB4)
- Milosevic, Dragon Z.; Martinelli, Russ: Waddell, James M.: Program Management for Improved Business Results, 2007, ISBN 978-0471783541.
- Milosevic, Dragon Z.; Patanakul, Peerasit; Srivannaboon, Sabin: Case Studies in Project, Program, and Organizational Project Management, 2010, ISBN 978-0470183885.
- Peter Morris, Peter; Pinto, Jeffrey, K. (2007): The Wiley Guide to Project, Program, and Portfolio Management.
- Project Management Institute (2018): The Standard of Program Management, Newtown Square, PA
- Project Management Institute (2018): The Standard for Portfolio Management, Newtown Square, PA
- Project Management Institute (2017): A guide to the project management body of knowledge (PMBOK guide) Sixth edition; Agile practice guide. Newtown Square, PA
- Sanghera, Paul (2008): Fundamentals of Effective Program Management: A Process Approach Based on the Global Standard, 2008, ISBN 978-1932159691.

Module J Digital Business Ecosystems

Code Number	Semester	Duration	ECTS-Credits
94300	Sem. 2	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Elective course	English	Annually - ST	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Digital Business Ecosystems	**60**	**120**	**180**	**4**

2 Content

The term "Digital Business Ecosystem" (DBE) emerged beginning of the 2000s by adding "Digital" to Moore's (1996) "Business Ecosystem" concept. The analysis, structuring, development and management of DBEs combine socio-economic concepts, ICT and biological concepts.

1. Cybernetics and systems view
1.1 Biological Systems
1.2 Cybernetics and Systems theory, social theories
1.3 System models, e.g. Ropohl, Systems engineering
1.4 Evolutionary and self-organizing systems

2. Socio-economic view
2.1 Business Ecosystems
2.2 Business processes, business models and value chains
2.3 Innovation, competition and dynamics in business ecosystems
2.3 Analysis of Case Studies

3. ICT view
3.1 Information supply chain
3.2 ICT architectures and tools for DBEs
3.3 Efficiency and effectivity for DBEs
3.4 Analysis of Case Studies

3 Learning Outcomes / Competencies

3.1 Professional Competencies
3.1.1 Knowledge
The students can

- explain the basics of cybernetics and systems theory
- explain and compare digital business models
- explain methods and tools for information supply chains
- explain the core concepts of DBEs

	3.1.2 Skills The students are able to • •analyze and develop value chains and information supply chains • •apply ICT tools for information supply chains • •develop tailored processes for DBEs in a given context in the course. **3.2 Personal Competencies** **3.2.1 Social Competencies** Students • train to develop and discuss concepts in teams. • develop an attitude towards digitization in from a system theory perspective • achieve effectiveness and efficiency in analyzing and assessing the effects of digitization in different system • can handle complexities while working in groups • are able to present and prudently defend team results in a complex and demanding environment • develop team competencies among the members **3.2.2 Autonomy** Students • work in teams and set up DBE environments for their respective case study project. • can manage and transform work or study contexts that are complex and require new strategic approaches. • can reflect operational challenges of a project in the background of digitization. • work out independent projects and ideas
4	**Teaching and Training Methods** Students will be introduced to the relevant topics and to literature for further reading. Students will be guided through a case study project where they set up a small DBE for an example case. They form teams and set up IT tools. • Lectures introducing concepts, methods and tools • Group work in the case study project to practice concepts and methods, to develop skills and to work on case studies • Presentations to communicate results and do a scientific discussion and reflection
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** • 50% contributions within case study project (team presentation) • 50% written or oral examination at the end of the course

7	**Requirements for Award of Credits** Successful completion of examination, Group presentation of team results
8	**Module used in other programmes** Master Digital Transformation
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Wolff
11	**Literature** J. Celaya, J. A. Vázquez, M. J. Rojas, E. Yuste, M. Riaza: How the new business models in the digital age have evolved, Dosdoce, 2016 F. Nashira, A. Nicolai, P. Dini, M.L. Louarn, L.R. Leon: Digital Business Ecosystem. European Commission, 2010 L.C. Reillier, B. Reillier: Platform Strategy: How to Unlock the Power of Communities and Networks to Grow Your Business, Routledge, 2017 A. Humphreys, K. Grayson: The Intersecting Roles of Consumer and Producer: A Critical Perspective on Co-Production, Co-Creation and Prosumption, Sociology Compass 2, 2008 O.A. El Sawy, F. Pereira: Business Modelling in the Dynamic Digital Space: An Ecosystem Approach, Springer, 2013 A. Tiwana: Platform Ecosystems: Aligning Architecture, Governance, and Strategy, Morgan Kaufmann, 2013

Module J Management Systems and Audit

Code Number	Semester	Duration	ECTS-Credits
94301	Sem. 2	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Elective course	English	Annually - ST	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Management Systems and Audit	**60**	**120**	**180**	**4**

2 Content

This course addresses the organisation of processes related to questions of health, safety and environment as well as energy. It especially focusses on the introduction and operation of international management norms which deal with these topics.

Managing safety, health and environmental issues is not only regulated by many laws and thus mandatory for most societies in the world, but also an important factor not to endanger a project. Besides the direct economic impact of failures in this area a consistent management of safety, health and environment shows a company's attitude – and a project manager's personal attitude – towards its employees and towards the society in general.

The use of energy and connected with it the ecologic impact of it are becoming more important for our future world. This is taken into account in legislation – not only in Germany – which focusses on replacing fossil fuels and enhancing the efficiency of energy use. A part of this legislation explicitly stresses the importance of efficient management processes by giving financial incentives.

Norms are used on a national and transnational basis to define internationally respected standards for technical equipment but also for management processes. Management of health and safety is dealt with in ISO 4500x, environmental management in ISO 1400x and energy management in ISO 5000x.

This course focusses on the implementation and operation of management processes for management systems and audit as given by the above mentioned norms. It also emphasis the integration of management systems and audit topics in project management.

After a general introduction and motivation, different laws and regulations (within and outside the EU) and different tools and techniques for project work are discussed. The international diversity of the students allows the comparison of rules and regulations and also of management traditions of different countries and companies.

Similarities and differences in the mentioned norms and their implementation are worked out. Tools and techniques to implement the norms and make efficient use of the created management structures are discussed. Special regard is taken in the

	advantages to not only implement one management norm but to implement a series of norms in an enterprise. The course includes case studies and role play activities applying the theory in situations arising from either the implementation of management structures in a company or from typical project management situations concerning questions of management systems and audit. 1. Theoretical Foundation 1.1 Management of Health, Safety and Environment 1.2 Energy Management 1.3 Management Traditions and Company Reports 1.4 Laws and Regulation 1.5 International Management Norms for Health, Safety, Environment and Energy 1.6 Project Management Basics 2. Practice/Case Studies 2.1 Definition of Case Studies/Role Plays 2.2 Management Tools and Techniques 2.3 Implementation and Operation of Management Norms 2.4 Health, Safety, Environment and Energy in Project Management
3	**Learning Outcomes / Competencies** **3.1 Professional Competencies** **3.1.1 Knowledge** The students • can explain the importance of management systems and audit management for a company • know laws and regulation concerning these topics in Germany, Europe and beyond • know the international management norms for management systems and audit and can explain the reasoning for and the structure of these norms • can explain company responsibilities for management systems and audit and the elements of implementing management processes for these • know management tools & techniques needed in project work **3.1.2 Skills** The students are able to • analyze given sets of rules and regulations on management systems and audit • implement management processes for management systems and audit • analyze and establish concepts on management systems and audit in teams & projects • develop and maintain management systems and audit processes and guidelines according to given company & country rules and regulations and international management practice • develop a working culture in their projects or in their company as responsible for management systems and audit **3.2 Personal Competencies** **3.2.1 Social Competencies**

	Students • train to reflect on the impact of their work and their projects • are able to lead discussions and bring conflicting ideas and goals to a consensus • reflect on ecological, economic, societal, legal and political aspects as well as on the ethical aspects and compare these within the international and intercultural environment of the course **3.2.2 Autonomy** Students • apply their judgement on controversial topics and learn to lead a team to a consensus
4	**Teaching and Training Methods** • Lectures and e-learning material will introduce students to concepts, methods and tools • Group work using case studies and role plays will be used to work on the development and implementation of management processes concerning management systems and audit as well as integrating management systems and audit in project work. • Homework to add individual contributions • Presentations to communicate results
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** • 75% contributions within the course (group and individual work in role play and case studies, individual paper on research topic) • 25% written or oral examination at the end of the course
7	**Requirements for Award of Credits** Successful completion of examination, scientific paper and presentation
8	**Module used in other programmes** Master in Energy Systems (EST)
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Reimann Prof. Dr. Füg
11	**Literature** • Heras-Saizarbitoria, I. (2018): ISO 9001, ISO 14001, and New Management Standards, Springer

	• ISO standards for ISO 4500x, ISO 1400x, ISO 5500x • Laws and Regulation on Health, Safety, Environment and Energy Project Management: • Pardy, W.; Andrews, T. (2019): Integrated Management Systems: Leading Strategies and Solutions, Bernan Press, 2nd edition • Rossiter, A.P.; Jones, B.P. (eds) (2015): Energy Management and Efficiency for the Process Industry, Wiley, Hoboken • Smith, C.B.; Parmenter, K.E. (2016): Energy Management Principles, 2nd ed., Elsivier, Amsterdam

Module J Managing Digital Change

Code Number	Semester	Duration	ECTS-Credits
94302	Sem. 2	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Elective course	English	Annually - ST	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Managing Digital Change	**60**	**120**	**180**	**4**

2 Content

The digital transformation is to a relevant extent a change process with a huge impact on organizations, processes, business model, the socio-economic environment and finally the affected hum beings. Managing the digital change means doing change management in a very specific context by implementing change projects. The module intends to give students a scientific insight into the relevant underlying mechanisms of the digital change process.

1. Digital Transformation in Organisations
1.1 New digitalized forms of organisation
1.2 Business models and business relations in the digital era
1.3 Structural resistance of organisations against digital change
1.4 Chances and risks of digital transformation in organisations

2. Socio-economic Impact of Digital Transformation
2.1 Digital transformation as a socio-economic trend
2.2 “Arbeit 4.0”
2.3 Education and training as impact mitigation
2.3 Analysis of Case Studies

3. Sustainable Digital Transformation
3.1 Stakeholder management in digital transformation projects
3.2 Project management for digital transformation projects
3.3 Efficiency and effectivity measurement
3.4 Sustainability and maturity models

3 Learning Outcomes / Competencies

3.1 Professional Competencies
3.1.1 Knowledge
The students can

- explain the basics of the digital transformation in organizations
- explain and compare digital business models

	• explain methods and tools for change management • explain the core concepts of “Arbeit 4.0” **3.1.2 Skills** The students are able to • analyze and develop digital transformation projects • apply change management to organisations • develop tailored concepts for sustainable digital transformation in a given context in the course. **3.2 Personal Competencies** **3.2.1 Social Competencies** Students train to develop and discuss concepts in teams. They can present their results to companies and discuss in a professional context. **3.2.2 Autonomy** Students work in teams and set up a digital transformation project for their respective case study.
4	**Teaching and Training Methods** Students will be introduced to the relevant topics and to literature for further reading. Students will be guided through a case study project where they plan a digital transformation project for an example case. This example case will be taken preferably from a real company project. Companies can bring their digital transformation projects as a case study for a block week or summer school workshop. Students form teams to prepare the respective project and present it in a kick-off presentation to the companies. • Lectures introducing concepts, methods and tools • Group work in the case study project to practice concepts and methods, to develop skills and to work on case studies • Presentations to communicate results and do a scientific discussion and reflection
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** • 50% contributions within case study project (team presentation) • 50% written or oral examination at the end of the course
7	**Requirements for Award of Credits** Successful completion of examination, Group presentation of team results

8	**Module used in other programmes** Master Digital Transformation
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Lu
11	**Literature** Csedo, Z., Kovacs, K. & Zavarko, M. (2017): How does Digitalization Affect Change Management: Empirical Research at an Innovative Industrial Group. European Journal of Business and Management. 9 (36), 1-5 Ehrhart, M., Schneider, B. & Macey, W. (2013): Organizational Climate and Culture an Introduction to Theory, Research, and Practice. New York, Routledge Raskino, M.; Waller, G. (2016): Digital to the Core: Remastering Leadership for Your Industry, Your Enterprise, and Yourself, Routledge Rogers, D.L. (2016): The Digital Transformation Playbook - Rethink Your Business for the Digital Age, Columbia Business School Publishing

Module J Project Finance, Procurement, Legal Aspects

Code Number	Semester	Duration	ECTS-Credits
94303	Sem. 2	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Elective course	English	Annually - ST	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Project Finance	**30**	**60**	**90**	**2**
	Legal Aspects in Project Management: Contracts, Procurement and further Issues	**30**	**60**	**90**	**2**

2 Content

Project Finance

Project finance mainly deals with raising of finance for capital investment project where the project has to repay the loan from its operations. The overall aim of this course is to help students to use financial information to improve their decisions as project managers and to learn and apply tools that maximize value. This course provides a broadly-based introduction to the study of project Finance. The course introduces the knowledge of project finance and financial principles to consider and appreciate solutions to gaining finances and funds allocation and contribute to discussions. The course includes case studies and home exercises to develop knowledge, skills and competences of students through real situations and by introducing different scenarios.

In the introductory part of the course the students will be provided with the basic terminology in the field of Project Finance. The role of financial manager related to acquisition of financing, investment and project finance will be discussed. Goal of a firm will be highlighted along with the key characteristics of project financing. Why it is important to understand project finance and the advantages and disadvantages of project financing will be elaborated.

In the second part the concepts related to the time value of money, project investment appraisal techniques, interest rates, multiple compounding, dynamic and static method of project evaluation will be provided. Small class exercises will be conducted to illustrate decision making based on NPV, IRR, Annuity, Annuity due, perpetuity etc. Students will learn about the basic tools of valuations and their possible limits by using them for the measurement of a project's return. Based on that insight, new tools applicable to the field of Project Finance will be involved.

In order to give broader understanding of financial aspects different forms of business incorporations including sole trader, partnership and corporations will be discussed. The students will be introduces with the basic financial statements including income statement, balance sheet, cash flow statement and statement of owners' equity. The main components of the individual financial statement will be briefly discussed. Based on the form of incorporation different financing options will be discussed along with the

advantages and disadvantages. Students will also learn about the different possible risks in a project and how to identify and classify, assess, mitigate and allocate them.

In the later part different forms of debts, secured debts, collateral etc. will be discussed. The cost of the debt will be elaborated including the discussion on the fluctuation on the cost of debt based on international credit ratings. Bonds and their different types including zero coupon bond, premium bond, discounted bond, euro bond etc. will be discussed. Calculation related to bond valuation at maturity and before maturity will be done. The procedure to launch shares in the stock market (IPO) will be elaborated. Calculations will be done to find the share valuations. Discussions will be made related to issuance and buying of bonds and shares to raise finance and investment accordingly. Students will learn how to evaluate the capital structure of a project and understand which benefits debt can provide to the project

Finally, multinational financial management including exchange rate and trading in foreign market will be elaborated. Research papers/articles related to the project financing and related issues will also be discussed. The students will learn how exchange rate mechanism work and how the profitability of a project is affected by the variations in the exchange rates.

Legal Aspects in Project Management: Contracts, Procurement, and further Issues

Many legal aspects have to be considered in projects; aspects that can be clustered concerning the main stakeholders in projects:

- Project team members often are **employees** working in contracts shaped by their company or public organization on one side and by the conditions of labour law on the other side. Furthermore, external consultants often work in a project hired on a service contract and of course also under the conditions of labour law.
- **Suppliers** submit products and services based upon contracts.
- Projects lead to results that are sold somehow to those who ordered these results - the **buyer**. There are many options what finally will be sold, outputs of a project, joint venture results, etc. Often many legal aspects have to be considered.
-

This course has the main focus on **contracts and procurement**. Further aspects like labour law will be mentioned but not discussed in detail.

Contract law is introduced based on the context of a contract: subject-matter, involved parties, contract types, contract features. Contract administration and claim management are discussed. The impact of contracts on projects is discussed, including special risks with contracts in projects.

Core issues of procurement are buying decisions, classification of commodities and services, supplier selection, contracting, delivery, etc. Procurement processes are discussed.

Finally, international standards on procurement in project - the knowledge areas on procurement in PMBOK and in the PMI Guide on Program Management shape the course.

3	**Learning Outcomes / Competencies** **3.1 Professional Competencies** **3.1.1 Knowledge** **Project Finance** The students are able to • explain what project financing is and what steps are involved in securing and managing it • explain the difference between Corporate Finance and Project Finance • describe the economic motivations of firms using Project Finance and explain why Project Companies represent optimal governance structures for certain kind of assets • explain for which situations in general and in particular Project Finance might be an attractive mean of financing • explain how to protect the corporate balance sheet from incremental distress costs by using Project Finance • explain the relationship between project structure and both managerial incentives and value creation • explain basic valuation tools and new tools applicable to Project Finance • explain project selection methods for investment • explain and discuss the role of time value in calculations, the use of computational aids, and the basic patterns of cash flow. • explain the concept of future value and present value, their calculation for single amounts, and the relationship between them. • explain the effect that compounding interest more frequently than annually has on future value and the effective annual rate of interest. • explain the motives for key capital expenditure and the steps in the capital budgeting process. • explain and define basic capital budgeting terminology • explain the procedures involved in determining deposits needed to accumulate to a future sum • explain how to identify, assess, mitigate and allocate risks of a project • explain how Risk Management affects the value of a project. • explain advantages and disadvantages of raising capital from loan, Bond and Shares • explain exchange rate mechanism and currency value fluctuations **Legal Aspects in Project Management: Contracts, Procurement, and further Issues** The students are able to • describe core issues of legal aspects in project management, • explain contract types, • explain different parties involved in contracts, • explain core features of contracts: subject-matter, duration, validity, delivery, payment, etc., • explain special features of contracts: warranty, exclusion of liability, etc., • explain different cases of impairment of performance: contractual penalty, price reduction, compensation, termination, etc., • explain contract administration: phases, procedures, tools, • explain claim management: individual claim, claim prevention, • explain special risk associated with project contracts,

- explain core issues of procurement in in projects: buying decisions, supplier selection, contracting, delivery, etc.,
- explain how to select commodities and services and potential suppliers,
- explain the procurement process: Information gathering, supplier contact, negotiation, shipment, payment, etc.,
- explain procurement according project management standards: knowledge area of procurement in PMBOK and in the Guide to Program Management, processes to run an control procurement in projects,

3.1.2 Skills

Project Finance

The students are able to

- differentiate between internal and external projects
- discover agency conflicts associated with a project
- build an effective governance structure for a project
- classify sponsor types, asset types, and country settings
- classify project risks
- model the forecasted cash flows of a Project as the basis of the economic analysis
- choose the optimal capital structure
- compute a financial model in order to evaluate the economic value of a certain project
- measure the returns of a project by using certain DCF and IRR methods
- interpret the results in terms of the validity as a sound decision basis.
- calculate both the future value and the present value of a mixed stream of cash flows
- to calculate the initial investment associated with a proposed capital expenditure
- calculate, interpret, and evaluate the payback period
- calculate, interpret, and evaluate the net present value (NPV)
- calculate, interpret, and evaluate the internal rate of return (IRR)
- find the future value and the present value of both an ordinary annuity and an annuity due, and the present value of perpetuity
- find the relevant operating cash inflows associated with a proposed capital expenditure
- determine the terminal cash flow associated with a proposed capital expenditure
- apply better tax treatment for the benefit of the project or project sponsor
- calculate, interpret, and evaluate different currency exchange rate and profit in the international currencies.

Legal Aspects in Project Management: Contracts, Procurement, and further Issues

The students are able to

- analyse contracts and check the impact of a contract,
- design a contract - and submit it as a proposal,
- select commodities and services and potential suppliers - applying classification of commodities and services,
- select suppliers,
- develop orders regarding all core issues (delivery, shipment, payment, etc.),
- manage the supply chain in projects,

	• develop concepts for contracting, • develop business rules for procurement. **3.2 Personal Competencies** **3.2.1 Social Competencies** The students can • select appropriate source of getting finances and identify appropriate projects for investment • lead to play a role in value maximization and taking financial decisions • detect agency problems and conflicts associated with the project • develop forecasts of the project cash flows of a project • develop solution for gaining finances and funds • detect problems associated with cash flow statement, balance sheet, income statement and statement of owners' equity • handle the tax variations • handle project financial risks by mitigating them by taking appropriate measures • determine relevant cash flows and the relevant discount rate for evaluating project feasibility • present the role and use of capital budgeting techniques in the capital budgeting process • detect issues related to issuance of shares and bonds • develop a strategy to deal with the exchange rate risk **3.2.2 Autonomy** The students can • independently work with the provided financial information to take appropriate measures related to financing and investing decisions. • apply gained knowledge about time value of money and tools like NPV and IRR for taking go/no go decisions related to particular project. • choose an appropriate form of business incorporation based on the scope of the business and financial requirements of the project. • analyse different sources of finance like Bonds and shares and develop a strategy for an appropriate capital structure. • ensure the consistent cash flow to meet the financial needs of the project. • manage and transform work or study contexts that are complex, unpredictable and require new approaches. • reflect operational challenges of a project. • the interplay between project and institutional framework and the strategic outline of a company and is able to derive an own mind on it.
4	**Teaching and Training Methods** Lectures incl. practitioners' best practices, Interactive case studies, Seminar, Case studies, (Short) presentations, Results-oriented presentations in oral and written form • Lectures introducing concepts, methods and tools • Group work to practice concepts and methods, to develop skills and to work on case studies • Home work to add individual contributions • Presentations to communicate results

5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** • 50% contributions within the course (workshops, homework, group work, case studies, 2-5 pages each) • 50% written examination (60 minutes) at the end of the course
7	**Requirements for Award of Credits** Successful completion of examination**,** assignments, case studies, class work, home assignment some as an individual and some in group)
8	**Module used in other programmes**
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Dechange Khan Legal
11	Literature Project Finance • Brigham, E., Ehrhardt, M., (2010) Financial Management theory and practice, 13th ed., (Cengage Learning) • Esty, B.C. (2008): Modern Project Finance: A Casebook, Hoboken (Wiley & Sons). • Finnerty, John D. (2013), Project Financing: Asset Based Financial Engineering, 3. ed., Hoboken (Wiley & Sons) • Khan, F.; Parra, R. (2013): Financing Large Projects: Using Project Finance Techniques and Practices, New York (Prentice Hall), ISBN 978-0131016347. • Project Management Institute (2017): A guide to the project management body of knowledge (PMBOK guide) Sixth edition; Agile practice guide. Newtown Square, PA • Project Management Institute (2017): The Standard for Program Management,

- Van Horne and Wachowicz, J., (2013): Fundamentals of financial management, 123th ed., (Prentice Hall)
- Yescombe, E. (2013): Principles of Project Finance, Academic Press, ISBN 9780123910585.

Weblinks:

- HBS Project Finance Portal: http://www.people.hbs.edu/besty/projfinportal
- Project Finance Magazine: http://www.projectfinancemagazine.com
- International Project Finance Association: http://www.ipfa.org
- Risk in Project Finance: http://riskybusiness.wordpress.com
- Projects Monitor: http://www.projectsmonitor.com
- Equator Principles: http://www.equator-principles.com

Legal Aspects in Project Management: Contracts, Procurement, and further Issues

- Ewan McKendrick (2018): Contract Law: Text, Cases, and Materials, Oxford University Press 8th edition
- Harold Kerzner (2017): Project Management: A Systems Approach to Planning, Scheduling, and Controlling, John Wiley & Sons
- Lucinda Miller (20119: The Emergence of EU Contract Law: Exploring Europeanization, Oxford University
- Peter Baily, David Farmer, Barry Crocker und David Jessop (2015): Procurement principles and management, Financial Times Prentice Hall
- Project Management Institute (2018): The Standard of Program Management, Newtown Square, PA
- Project Management Institute (2018): The Standard for Portfolio Management, Newtown Square, PA
- Project Management Institute (2017): A guide to the project management body of knowledge (PMBOK guide) Sixth edition; Agile practice guide. Newtown Square, PA
- Richard Stone (2015): Modern law of contract, Routledge.

Module J/(K/L) Research Seminar

Code Number	Semester	Duration	ECTS-Credits
94304	Sem. 2/(3)	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Elective course	English	Annually – ST/(WT)	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Research Methods and Tools – part B (RMT-B)	**30**	**60**	**90**	**2**
	Research Seminar Report	**0**	**90**	**90**	**2**

2 Content

The research seminar is intended to introduce students into scientific research work in a defined context. Students will conduct own research in a given context, mainly by literature analysis and with a deductive research approach. The starting point is the definition of the research questions they want to answer and the selection of the appropriate methodology. They will summarize their finding in a paper, the research seminar report. The research seminar will be a preparation for the more scientifically oriented students for further work on the project and master thesis. Students will present the results at the end of the semester.

1. Research Methods and Tools – part B (RMT-B): Deeper insight into scientific methods and tools in the PM domain (Research Design, Tools, Databases, Publishing). Presentation and discussion of relevant scientific trends and communities with a scientific expert from PM domain. Students will be prepared via the sequence of RMT-A and RMT-B to publish a first paper at the annual Dortmund International Research Conference.
2. Research Seminar Report: Students will prepare a research paper on a given topic for a conference (defined during the seminar). This involves mainly literature review and deductive research on the topic. Papers will be presented during the seminar. Excellent papers will be submitted to a conference, e.g. the Dortmund International Research Conference (IRC)

3 Learning Outcomes / Competencies

3.1 Professional Competencies

3.1.1 Knowledge

The students

- knows state of the art in a certain scientific field
- knows open research questions in this field
- knows relevant literature
- knows methodology and tools to execute own research

	3.1.2 Skills The students • can plan and write an own research paper • can apply appropriate research methodology (mainly deductive) • can create own research findings **3.2 Personal Competencies** **3.2.1 Social Competencies** • can present and defend results (in a presentation or at a conference) **3.2.2 Autonomy** • can run an own small scientific research project • masters uncertainty and unknown topics in new area
4	**Teaching and Training Methods** • Research Methods and Tools – part B (RMT-B): lecture • Research Seminar Report: homework and presentation
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** 1. Research Methods and Tools – part B (RMT-B): oral or written exam (50%) 2. Research Seminar Report: paper and presentation (50%)
7	**Requirements for Award of Credits** Successful completion of exam, paper and presentation
8	**Module used in other programmes** -
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75

10	**Module Leader** Various professors
11	**Literature** Specific material for each course

Module J/K/L Trends in Project Management

Code Number	Semester	Duration	ECTS-Credits
94310	Sem. 2/3	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Elective	English	WT/ST	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Trends in Project Management	**60**	**120**	**180**	**4**

2 Content

The module will introduce and discuss recent topics from scientific research and project management. The goal is to make students familiar with the trends and to encourage own scientific and practical work in the respective field. The module will use presentations by scientists and practitioners to introduce topics. Literature work including structured literature reviews and discussion of relevant research papers will further enhance the practical knowledge. Industry presentations and visits can deliver practical insights. The module can introduce several different areas or topics, or it can dive deep into one topic. This can involve own research work of students, e.g. in order to develop a research paper for a conference (preferably the Dortmund International Research Conference). The module can also include practical labs or experiments. Individual project work or group work in small project teams can be used to develop new results. Presentations can be used to discuss the results.

3 Learning Outcomes / Competencies

2.1 Knowledge

- Knows recent trends in project management
- Knows the relevant scientific literature
- Knows practical cases

2.2 Skills

- Can do a structured literature review on a given topic
- Can design own research on the topic
- Can present research results

2.3 Competence - attitude

- Can systematically explore a new scientific field

	• Can organize research work in an unknown field • Can synthesize and summarize findings in a meaningful way • Shows curiosity in scientific research
4	**Teaching and training methods** • Lecturers and industry presentations • Individual literature research • Assignments, e.g. writing of a paper
5	**Prerequisites for Admission** **Formal:** None **Knowledge and Competencies:** To be specified by the lecturers.
6	**Assessment** Depending on the lectures/projects actually selected for the particular semester. Will be announced in due time before the beginning of term.
7	**Requirements for Award of Credits** Successful completion of examination
8	**Module used in other programmes** -
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Depends on topic (organizer: Prof. Dr. André Dechange)
11	**Further Information** **Literature:** • Specific for the recent research topic

Module J/K/L Trends in IT-Project Management

Code Number	Semester	Duration	ECTS-Credits
94311	Sem. 2/3	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Elective	English	WT/ST	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Trends in IT-Project Management	**60**	**120**	**180**	**4**

2 Content

The module will introduce and discuss recent topics from scientific research and IT-project management. The goal is to make students familiar with the trends and to encourage own scientific and practical work in the respective field. The module will use presentations by scientists and practitioners to introduce topics. Literature work including structured literature reviews and discussion of relevant research papers will further enhance the practical knowledge. Industry presentations and visits can deliver practical insights. The module can introduce several different areas or topics, or it can dive deep into one topic. This can involve own research work of students, e.g. in order to develop a research paper for a conference (preferably the Dortmund International Research Conference). The module can also include practical labs or experiments. Individual project work or group work in small project teams can be used to develop new results. Presentations can be used to discuss the results.

3 Learning Outcomes / Competencies

2.1 Knowledge

- Knows recent trends in IT-project management
- Knows the relevant scientific literature
- Knows practical cases

2.2 Skills

- Can do a structured literature review on a given topic
- Can design own research on the topic
- Can present research results

2.3 Competence - attitude

- Can systematically explore a new scientific field

	• Can organize research work in an unknown field • Can synthesize and summarize findings in a meaningful way • Shows curiosity in scientific research
4	**Teaching and training methods** • Lecturers and industry presentations • Individual literature research Assignments, e.g. writing of a paper
5	**Prerequisites for Admission** **Formal:** None **Knowledge and Competencies:** To be specified by the lecturers.
6	**Assessment** Depending on the lectures/projects actually selected for the particular semester. Will be announced in due time before the beginning of term.
7	**Requirements for Award of Credits** Successful completion of examination
8	**Module used in other programmes** -
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Depends on topic (organizer: Prof. Dr. André Dechange)
11	**Further Information** **Literature:** Specific for the recent research topic

Module K/L Sustainability and Quality

Code Number	Semester	Duration	ECTS-Credits
94309	Sem. 3	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Elective course	English	Annually - WT	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Sustainability in Project Management	**30**	**60**	**90**	**2**
	Quality Management Models	**30**	**60**	**90**	**2**

2 Content

This course addresses advanced concepts related to the successful and sustainable management of projects and project environments. The first aspect is sustainability in project management. The topic is mainly related with the project environment – meaning with the effect of projects on their environment. In addition, the requirements of the world outside the project pose challenges and requirements to the project which need to be taken into account. Sustainable project management combine the traditional project management with its focus inside the project with the implications and connection of the project context outside the project.

Quality management in a holistic sense derives the definition of quality out of the dimensions of sustainability and other project success criteria. The analysis of efficiency and effectivity based on the inputs, outputs, outcomes and the impact of a project forms the topics of such a holistic quality management model.

1. Sustainability in Project Management
1.1 Introduction to sustainability concepts
1.2 Project context and environment analysis
1.3 Concepts for managing the project context
1.4 Life cycle concepts in project management
1.5 Sustainability maturity models

2. Quality Management Models
2.1 Characteristics of Quality in Project Management
2.2 Advanced ISO management systems
2.3 Efficiency and Effectivity measurement
2.4 Holistic cause-and-effect models (e.g. IOOI)
2.5 Embedding advanced quality management into project management
2.6 Maturity models
2.7 QM in organizations

3	**Learning Outcomes / Competencies** **3.1 Professional Competencies** **3.1.1 Knowledge** The students can • explain sustainability concepts and ecological aspects • explain project context and environment • explain and compare project and product life cycles • explain sustainability maturity model • knows relevant tools for sustainability analysis • knows relevant ISO standards for management systems • explain efficiency and effectivity measurement • knows maturity models in QM **3.1.2 Skills** The students are able to • analyze the project context and environment • develop life cycle models based on sustainability aspects • apply management systems according to ISO standards • develop measurement concepts for efficiency and effectivity • understand QM systems and QM organizations **3.2 Personal Competencies** **3.2.1 Social Competencies** Students train to reflect on the impact of their work and their projects. They are able to lead discussions and bring conflicting ideas and goals to a consensus. The topics discussed have a scope beyond project management and require the reflection on ecological, economic, societal, legal and political aspects. There is also ethical aspects, which are specifically interesting in the international and intercultural environment of the course. **3.2.2 Autonomy** Students apply their judgement on controversial topics and learn to lead a team to a consensus.
4	**Teaching and Training Methods** Students will be introduced to concepts and methods by lectures and scientific papers and articles. They will train team skills by leading discussions. • Lectures introducing concepts and methods • Group work in discussing sustainability and quality in a wider scope and in developing plans and concepts based on case studies • Home work to add individual contributions by literature review and compiling a scientific contribution for the International Research Conference • Presentations to communicate results

5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** • 50% with a scientific paper and presentation • 50% oral examination at the end of the course
7	**Requirements for Award of Credits** Successful completion of examination, scientific paper and presentation
8	**Module used in other programmes**
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Reimann Prof. Dr. Otegi
11	**Literature** • ISO standards for EFQM, ISO 900x, ISO 1000x, ISO 1400x, ISO5000x, • Alvarez-Dionisi, L.E., Turner, R. and Mittra, M., (2016): Global project management trends, International Journal of Information Technology Project Management (IJITPM) 7(3) • Gareis, R., Heumann, M. and Martinuzzi, A., 2009: Relating sustainable development and project management, IRNOP IX, Berlin. • Labuschagne, C. and Brent, A. C., 2005: Sustainable Project Life Cycle Management: the need to integrate life cycles in the manufacturing sector., International Journal of Project Management, 23(2), 159-168. • Ligteringen, E., & Zadek, S., 2005: New executive briefing: The future of corporate responsibility codes, standards and frameworks.

Module K/L Global Business Projects

Code Number	Semester	Duration	ECTS-Credits
94306	Sem. 3	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Elective course	English	Annually - WT	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Global Business Projects	**60**	**120**	**180**	**4**

2 Content

This module offers students a systematic approach to the fundamental principles of global project management from theoretical and practical viewpoints. Students will develop a sound understanding of key issues in managing global business projects caused by different dimensions of physical and socio-cultural distance and learn how to shrink distance in order to facilitate effective collaboration and to close projects successfully.

Students will be exposed to state-of-the-art project management concepts and techniques for project initiating, planning, and controlling. Topics will be explored through a combination of lectures, assigned readings and interactive exercises. An important part of this course consists of a practical global project management case study.

Alongside continuous globalization of business, managing global business projects becomes an ever more important skill across all disciplines putting students with excellence in that domain at a competitive advantage. The module trains students' competences in managing and working on globally distributed project teams consisting of internal and external business partners with a high degree of international division of labour. Students will qualify to meet the challenges in project management induced by current global trends that reshape competitive parameters for business such as distributed business units, outsourcing and partnering. In particular, students will strengthen their ability to deal with complex matters in projects and business activities of widened geographical scope.

Topics include

- Characteristics of global business projects
- Characteristics of global business project management,
- Different Project Management for global business projects
- Methods and tools for managing global business projects
- Different types of organisational structures
- Leadership styles for for managing global business projects
- Virtual team management

3	**Learning Outcomes / Competencies** **3.1 Professional Competencies** **3.1.1 Knowledge** The students can explain • core issues of global business projects, • opportunities and threads of global business projects, • criteria for selecting global business projects, • requirements for global business projects, • main methods and tools for managing global business projects, • competences needed in global business projects, • global and local management roles and tasks, • Leadership styles for managing global business projects **3.1.2 Skills** The students are able to • analyse global business projects, • determine impacts of global business projects, • determine proper methods and tools for managing global business projects, • design a limited global business project, • set up efficient team organization and processes for global business projects, • establish effective business project initiating, planning, and controlling, • apply concepts, methods and tools for the development of project plan for managing global business projects **3.2 Personal Competencies** **3.2.1 Social Competencies** The Students can/know/apply • apply methods and tools for managing global business projects • lead and coordinate teams in a results-oriented way in an global business project, • present and prudently defend team results in a complex and demanding environment, • improve cooperation among human resource in projects and organizations based upon appropriate policies and strategies, • handle complexities while working in international environment, • develop competence framework for special applications in a project based upon a deep understanding of the core competencies according to ICB or similar standards combined with competence models derived in the HRM context leading to the evaluation and further development of individual competencies in a project, • develop team competencies among the members **3.2.2 Autonomy** The Students can/know/apply • manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches,

	• reflect challenges of global acting company, • the interplay between different cultures and social systems, • work out global project set-ups.
4	**Teaching and Training Methods** e.g: Lectures incl. practitioners' best practices, Interactive case studies, Seminar, Case studies, (Short) presentations, Results-oriented presentations in oral and written form • Lectures introducing concepts, methods and tools • Group work to train concepts and methods, to develop skills and to work on case studies • Home work to add individual contributions • Presentations to communicate results
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies:** Fundamentals in Project Management
6	**Assessment** • 50% contributions within the course (homework, group work, presentations, case studies) • 50% written or oral examination at the end of the course
7	**Requirements for Award of Credits** Successful completion of examination**,** Presentation (individual / group)
8	**Module used in other programmes**
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Dechange
11	**Literature** • Bea, F.X.; Scheurer, S.; Hesselman, S. (2011): Projektmanagement, 2. Auflage, Konstanz und München • CLELAND, D.I. / GAREIS, R (2006): Global Project Management Handbook – Planning, organizing and controlling international projects, 2nd edition, McGraw-Hill, New York.

- HOFSTEDE, G. (2010): Culture and organizations: Software of the mind, 3rd edition, McGraw-Hill, New York.
- Kerzner, Harold: Project Management - A Systems Approach to Planning, Scheduling and Controlling, 12th edition, John Wiley, 2017
- Köster, Kathrin (2009): International project management; SAGE Publ; London
- MILOSEVIC, D. Z. (2016): Project Management ToolBox: Tools and Techniques for the Practicing Project Manager,2nd edition Wiley, New York.
- MINTZBERG, H. (1992): Structure in Fives: Designing Effective Organizations. Upper Saddle River: Prentice-Hall.
- ORR, R. J. (2005): Unforeseen conditions and costs on global projects: Learning to cope with unfamiliar institutions, embeddedness, and emergent uncertainty, Stanford University Press, Stanford, Calif.
- PMBOK® - 6th edition, PMI® 2017.
- Rothlauf, Jürgen (2014): A global view on intercultural management; De Gruyter Oldenbourg; Berlin

Module K/L Implementing Project Management in an Organisation

Code Number	Semester	Duration	ECTS-Credits
94307	Sem. 3	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Elective course	English	Annually - WT	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Implementing Project Management in an Organisation	**60**	**120**	**180**	**4**

2 Content

The Module "Implementing Project Management in an Organisation" considers one of the main trends in Project Management in the recent decades. The topic is part of the broad topic Multi-project Management and Project oriented Organisation.
Implementing Project Management in an Organisation encompasses approaches, processes, roles, methods and tools to professionally implement and establish project management in different types of organisations, e.g. company, non-profit Organisations, departments of a company.
The module has interfaces to other Project Management areas, as Stakeholder Management, Project Management Standards, Maturity Level as well as interfaces to areas as Consulting, Change Management, Process Management, Soft-Skills (Communication, Negotiation, Self-Management, Social Competence, etc.)
Rather than describe the course attempts to provide a conceptual framework for implementing Project Management in an organiation.
Topics include:

- Different Project Views
- Project Management approaches
- Differences and characteristics of Single and Multi-Project Management (SPM and MPM)
- Success Factors of Multi Project Management (Organisation, People, Methodology, IT)
- Characteristics of Project-Orientated Organisations (POO)
- Characteristics of a temporary organisation
- Processes of Single-Project Management
- Company standards of Project Management
- Maturity Level of Project Management
- Goal, characteristics, types and tasks of a Project Management Office (PMO)
- Phases of implementation of Project Management
- Different roles in EPM and MPM
- Fundamentals of business consulting
- Relevant elements of Change Management

The course aims both to familiarize students with influential papers and current research, and to promote new research ideas in the area.

3	**Learning Outcomes / Competencies** **3.1 Professional Competencies** **3.1.1 Knowledge** The Students can/know/apply • Explain the different project management approaches and the link to different project types • Explain the different elements of a Project Management standard • the latest state of knowledge regarding characteristics of a Project Oriented Organizations and PMOs, • Differentiate between different types of PMO • Explain the processes and activities to implement and establish Project Management in on Organisation • Explain and interpret Success Factors for implementation of Project Management in an Organisation **3.1.2 Skills** The Students can/know/apply • specialised analysing skills required in research and/or innovation in order to develop Project Management standards in an organisation, • detect and identify risk by implementing Project Management in an organisation, • apply tools for environmental analysis in different organisational settings, • develop project plan by using tools like Work Breakdown Structure (WBS), Gantt chart, Stakeholder and risk register for implementing a Project Management Standard in an organisation, • control a project for Project Management implementation **3.2 Personal Competencies** **3.2.1 Social Competencies** The Students can/know/apply • lead and coordinate teams in a results-oriented fashion, • present and prudently defend results in a complex and demanding environment, • improve cooperation among human resource in projects and organizations based upon appropriate policies and strategies, • handle complexities while working in project teams, • detect the HR competencies needed in a project or in an organization, • develop competence framework for special applications in a project based upon a deep understanding of the core competencies according to Project Management Standards (PMBoK; ICB or similar standards), **3.2.2 Autonomy** The Students can/know/apply • manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches,

	• reflect challenges of an organisation in the background of social values, • the interplay between economic regulation and institutional framework and the strategic outline of a company and is able to derive an own mind on it, • work out implementation projects and ideas and can do what is necessary to carry out a sustainable management initiative,
4	**Teaching and Training Methods** e.g: Lectures incl. practitioners' best practices, Interactive case studies, Seminar, Case studies, (Short) presentations, Results-oriented presentations in oral and written form • Lectures introducing concepts, methods and tools • Group work to practice concepts and methods, to develop skills and to work on case studies • Home work to add individual contributions • Presentations to communicate results
5	**Prerequisites for Admission** **Formal:** Modules of the 1 semester and MPM 2nd semester **Knowledge and Competencies: -**
6	**Assessment** • 50% contributions within the course (homework, group work, presentations, case studies) • 50% written or oral examination at the end of the course
7	**Requirements for Award of Credits** Successful completion of examination**,** Presentation (individual / group)
8	**Module used in other programmes** --
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Dechange
11	**Literature** • AXELOX (2017): Managing Successful Projects with Prince2(R)

- Bea, F.X.; Scheurer, S.; Hesselmann, S. (2011): Projektmanagement, 2. Auflage, Konstanz und München
- Dechange, A.; Friedrich, B. (2013): Multiprojektmanagement in der Energiewirtschaft in: Lau, C; Dechange, A; Flegel, T. (Hrsg.): Projektmanagement im Energiebereich, Springer Verlag, Wiesbaden, S. 101 – 124
- Dechange, A.; Lau, C. (2008): Effiziente und erfolgreiche Implementierung von Projekt Management Offices in: Steinle, Eßeling und Eichenberg (Hrsg.) (2010): Handbuch Multiprojektmanagement und –controlling – Projekte erfolgreich strukturieren und steuern. 2. Auflage. Erich Schmidt Verlag, S. 69 – 86
- Gareis, R. (2001): Programmmanagement und Projektportfolio-Management. Zentrale Kompetenzen Projektorientierter Unternehmen", in: Projektmanagement 1/2001, S. 4-11.
- Gareis, R. (2006): Happy Projects!, 3. Auflage, Manz, Wien
- Gessler, M. (20141): Kompetenzbasiertes Projektmanagement (PM3), Band 3, 74. Auflage, GPM, Nürnberg
- Gröger, M. (2004): Projektmanagement, Abenteuer Wertvernichtung, Eine Wirtschaftlichkeitsstudie zum Projektmanagement in deutschen Organisationen
- Hill, G. (2004): The Complete Project Management Office. Auerbach Publications
- Kendall, G;. Rollins, S. (2003) Advanced Project Portfolio Management and the PMO – Multiplying TOI at Warp Speed. J. Ross Publishing
- Kunz, C. (2007): Strategisches Multiprojektmanagement - Konzeption, Methoden und Strukturen. 2. Auflage. Deutscher Universitäts-Verlag
- Kunz, C. (20076): Einflussnahme und Mitwirkung von Organisationseinheiten im Multiprojektmanagement. Zeitschrift für Planung & Unternehmenssteuerung 17: 433–454
- Lomnitz, G. (20081): Multiprojektmanagement – Projekte planen, vernetzen und steuern. Auflage 4, Moderne Industrie Verlag 2001. Landsbergmi-Wirtschaftsbuch
- PMI (2103): PMBOK® - 65th edition, PMI® 20173.
- Schelle, H; Ottmann, R.; Pfeiffer, A. (2008): ProjektManager, 3rd edition, GPM, Nürnberg

	• Seidl, J. (2011): Multiprojektmanagement - Übergreifende Steuerung von Mehrprojektsituationen durch Projektportfolio- und Programmmanagement. Springer-Verlag Berlin Heidelberg • Steinle, Eßeling und Eichenberg (Hrsg.) (2010): Handbuch Multiprojektmanagement und –controlling – Projekte erfolgreich strukturieren und steuern. 2. Auflage. Erich Schmidt Verlag • Vahs D./Schäfer-Kunz J. (201507): Einführung in die Betriebswirtschaftslehre, 75. Auflage, Stuttgart

Module K/L Agile Management in Virtual Project Environments

Code Number	Semester	Duration	ECTS-Credits
94305	Sem. 3	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Elective course	English	Annually - WT	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Agile Management in Virtual Project Environments	**60**	**120**	**180**	**4**

2 Content

This course offers students a systematic approach to the management of software development projects. Specifically, the development of software in virtual team environments using agile methodology is considered. This is part of Software Engineering Methodology, User Centered Design Methodology and Project Management Methodology.

The intention of the course is to prepare the students on managing complex software development. The focus is the introduction of modern software development processes and the discussion of the implication of these processes on project management.

1. Software Engineering Processes
1.1 Introduction
1.2 Software Engineering Methodology
1.3 Modern Software Engineering Processes
1.4 User Centered Design

2. Managing Software Engineering Projects
2.1 Characteristics and Challenges of Software Engineering Projects
2.2 Project Management in Different Processes (e.g. Agile, Scrum, Scrumban)
2.3 Virtual Teams and Collaboration in Virtual Environments
2.3 Presentation of Case Studies

3. Tools For Managing Software Engineering Projects
3.1 Workflows and Design Flows
3.2 User Context, Requirements, Prototyping and Evaluation
3.3 IT Tools for Software Development, Agile Project Management and Collaboration
3.4 Communication in Virtual Teams

3	**Learning Outcomes / Competencies** **3.1 Professional Competencies** **3.1.1 Knowledge** The students can •explain core issues of agile projects •explain and compare software development processes •explain methods for user participation in the process •explain cooperation in virtual teams with collaboration tools •explain and compare methods for managing agile projects •explain and compare workflows and design flows for agile projects **3.1.2 Skills** The students are able to •apply tools for management of software development projects •develop tailored processes for managing software development projects •setup IT environments for collaboration in virtual teams in a given context in the course. **3.2 Personal Competencies** **3.2.1 Social Competencies** Students • train to cooperate in a virtual team via collaboration tools. • develop an agile mindset • can handle complexities while working in groups • are able to present and prudently defend team results in a complex and demanding virtual environment • develop team competencies among the members **3.2.2 Autonomy** Students • can take decisions on the project execution based on their judgement and on team consensus. • independently set up and operate a complex IT infrastructure (e.g. redmine, GIT, AMALTHEA SW development tool chain) • can reflect operational challenges of a virtual project • work out independent projects and ideas
4	**Teaching and Training Methods** Students will be guided through a case study project. They form agile teams and collaborate in the project execution via IT tools. • Lectures introducing concepts, methods and tools • Group work in the case study project to practice concepts and methods, to develop skills and to work on case studies

	• Home work to add individual contributions by reflecting on the scientific background of the used concepts • Presentations to communicate results
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** • 50% contributions within case study project (team presentation) • 50% written or oral examination at the end of the course
7	**Requirements for Award of Credits** Successful completion of examination, Group presentation of team results
8	**Module used in other programmes** Master Digital Transformation
8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Wolff
11	**Literature** • Fairley, Richard E. (2009): Managing and Leading Software Projects, John Wiley & Sons, • Harned, D. (2018): Hands-On Agile Software Development with JIRA: Design and manage software projects using the Agile methodology, Packt Publishing • Kim, G.; Humble, J.; Debois, P.; Willis, J.; Allspaw, J. (2016): The DevOps Handbook: How to Create World-Class Agility, Reliability, and Security in Technology Organizations, IT Revolution Press • Knaster, R.; D. Leffingwell, D. (2018): SAFe 4.5 Distilled: Applying the Scaled Agile Framework for Lean Enterprises, Addison-Wesley Professional, 2nd edition • PMI (2017): Agile Practice Guide • Ravindranath Pandian C. (2006): Applied Software Risk Management: A Guide for Software Project Managers, , Auerbach Pubn

Module K/L Information Processing and Data Analytics

Code Number	Semester	Duration	ECTS-Credits
94308	Sem. 3	1 Sem.	6

Type of lecture	Language of instruction	Frequency	Semester hours per week
Elective course	English	Annually - WT	4

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Information Processing and Data Analytics	**60**	**120**	**180**	**4**

2 Content

Modern project management is based on facts and on data. Dealing with data, analysing data and deriving conclusions and decisions from data is crucial for project management. The module is developing the topics of information processing and data analytics along a case study.

1. Information processing and data collection
1.1 Development of indicator systems
1.2 Design of data collection experiments with online tools
1.3 IT tools for data collection
1.4 Advanced MS Excel

2. Data bases and data warehouses
2.1 Introduction to databases, SQL
2.2 Data warehouse systems
2.3 Cloud based systems
2.3 Analysis of Case Studies

3. Data analytics
3.1 Data refinement
3.2 Data analytics and business intelligence
3.3 Probabilistic methods
3.4 Artificial intelligence and learning (introduction to IBM Watson)

3 Learning Outcomes / Competencies

3.1 Professional Competencies
3.1.1 Knowledge
The students can

- explain the basic characteristics of data and data collection
- explain advanced functionality of Excel
- explain database and data warehouse concepts
- explain the core concepts of data analytics and business intelligence

	3.1.2 Skills The students are able to • develop data collection experiments with online tools • apply MS Excel for data analytics • set up and use simple SQL databases • set up and use tools for statistical data analysis • use IBM Watson for AI experiments **3.2 Personal Competencies** **3.2.1 Social Competencies** Students train to do surveys with people from different cultural backgrounds. In discussion students develop a critical attitude to data based decision making and to issues like privacy and data protection. **3.2.2 Autonomy** Students work in teams and set up data analytics experiments and tools for their respective case study project.
4	**Teaching and Training Methods** Students will be introduced to the relevant topics and to literature for further reading. Students will be guided through a case study project where they set up a small experiments for data collection, data storage and query and data processing for an example case. They form teams and set up IT tools. • Lectures introducing concepts, methods and tools • Group work in the case study project to practice concepts and methods, to develop skills and to work on case studies • Presentations to communicate results and do a scientific discussion and reflection
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** • 50% contributions within case study project (team presentation) • 50% written or oral examination at the end of the course
7	**Requirements for Award of Credits** Successful completion of examination, Group presentation of team results
8	**Module used in other programmes** Master Digital Transformation

8	**Weighting of the mark for the final grade** EuroMPM (3 Sem.): 6,6 % (6/66) x 73 EuroMPM (4 Sem.): 6,8 % (6/66) x 75
10	**Module Leader** Prof. Dr. Reimann
11	**Literature** Bruce, P. & Bruce; A. (2017): Practical Statistics for Data Scientists: 50 Essential Concepts, , O'Reilly Media Provost, F.; Fawcett T. (2013): Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking, O'Reilly Media Rafael A. Irizarry, Chapman and Hall (2019): Introduction to Data Science: Data Analysis and Prediction Algorithms with R, /CRC Sherman, R.; Kaufmann, M. (2014): Business Intelligence Guidebook: From Data Integration to Analytics Winston, Wayne L. (2019): Microsoft Excel 2019 Data Analysis and Business Modeling, Microsoft Press, 6th edition

Module M Project Thesis

Code Number	Semester	Duration	ECTS-Credits
94251	Sem. 3	1 Sem.	18

Type of lecture	Language of instruction	Frequency	Semester hours per week
Required course	English	Annually - WT	12

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Project Thesis	**0**	**540**	**540**	

2 Content

The project thesis is intended to introduce students into scientific research work in a bigger context. Students will participate in one of the ongoing research projects, do an internship project or conduct an own research project. The starting point is the definition of the research questions they want to answer and the selection of the appropriate methodology. The students will plan and execute their project independently with regular review and consulting. They will summarize their finding in a project thesis (project report). The project thesis will be a preparation for further work on the master thesis. The intention of the project thesis is to familiarize with the research methodology in a certain scientific field and to formulate the scientific state of the art and the research questions. The student proves the ability to execute own and independent research on master level and with a certain complexity. Students will present the results in a colloquium at the end of the semester.

Excellent results are intended to be published and presented (oral or poster) at a conference (can be done in connection with the master thesis, too).

3 Learning Outcomes / Competencies

3.1 Professional Competencies

3.1.1 Knowledge

The students

- knows state of the art in a certain scientific field
- knows open research questions in this field
- knows relevant literature
- knows methodology and tools to execute project

3.1.2 Skills

The students

- can define and plan an own research project
- can apply appropriate research methodology
- can create own research findings

	• can describe project execution, methodology and findings in a scientific report **3.2 Personal Competencies** **3.2.1 Social Competencies** • can present and defend results (in colloquium or at a conference) **3.2.2 Autonomy** • can run an own more complex scientific research project • masters uncertainty and unknown topics in new area
4	**Teaching and Training Methods** • Project Work • Writing of a scientific report • Presentations to communicate and discuss the findings • E-learning course on scientific work and scientific writing • Individual review and feedback on papers and presentations
5	**Prerequisites for Admission** **Formal: -** **Knowledge and Competencies: -**
6	**Assessment** Assessment of the course: project thesis about own research in an ongoing project as individual homework + presentation in colloquium (100%)
7	**Requirements for Award of Credits** Successful completion of thesis and colloquium
8	**Module used in other programmes** -
8	**Weighting of the mark for the final grade** 20,5 % (18/66) x 75
10	**Module Leader** Various professors
11	**Literature** Specific material for each course

Master Thesis and Colloquium

Code Number	Semester	Duration	ECTS-Credits
103	Sem. 3/4	1 Sem.	24/30

Type of lecture	Language of instruction	Frequency	Semester hours per week
Required course	Agreed with supervisors	ST/WT	

1	Course Title	Contact hours (h)	Self-study (h)	Total workload (h)	SWS
	Master Thesis				
	Colloquium				

2 Content

The 4th semester of the European Master in Project Management is totally focused on the master thesis.

Registration for the final part of the master's examination (application for thesis) should usually take place before the end of the third semester.
The thesis must be developed under the conditions of the European Qualification Framework - level 7.

Lecturers make proposals for a thesis based on their research activities or based upon current projects. Students can also make proposals on their favorite topics.

A thesis can be developed in a company or any other organization or within the university. In any case there must be a promoter of the thesis selected among the lecturers of the university or partner universities.
The thesis can also be worked up in the form a group work if the contribution of individual candidates, based on the section, pages or some other objective criteria can be applied such that it allows clear distinction of individuals separate contributions and their meaningful evaluation.

The master thesis must be registered at the faculty when the students start with their thesis. When students register the thesis the promoter must be fixed.

The work-up or processing time (time from assignment to submission) is 20 weeks. The topic and constellation of tasks must be structured in a way that it is possible to submit the completed thesis within the time allocated.

When the students finish their thesis they submit 3 bound paper versions of their thesis with an attached CD with the whole thesis (pdf and open file) and core documents used.

	After the submission of the thesis, a colloquium on the thesis is arranged where students and examiners discuss the concepts and results. The project is coached and assessed by a professor. The thesis encompasses, but not limited to the following activities. • Find thesis Supervisor • Identify research topic (with supervisor) • Write research sketch • Select literature • Read & understand the literature • Write literature review • Pinpoint the key theories to apply • Explain research techniques • Define sample & collect data • Display findings • Discuss findings • Show limitations & new research strands • Conclude & Reflect
3	**Learning Outcomes / Competencies** **3.1 Professional Competencies** **3.1.1 Knowledge** The thesis is a written work of scholarship that should document that a candidate is independently capable of applying scientific and practical techniques to the processing of challenging tasks taken from specified subject areas, including not only specific individual technical details but also the wider implications. **3.1.2 Skills** The students are able to • Work in a scientific way • apply concepts, methods, and tools used in project. • manage a research project. • apply research designs and strategies. • apply various data collection techniques. • • reflect on expertise and draw conclusions. • defend the results in a scientific and business oriented environment. • generate new knowledge and contribute to the PM community **3.2 Personal Competencies** **3.2.1 Social Competencies** n.a. **3.2.2 Autonomy** The student can handle the formal requirements associated to a research paper: investigating the research context, collecting material from the scientific literature, performing and processing bibliographical inquiries, presenting own ideas in the scientific environment of the given topic.

4	**Teaching and Training Methods** e.g: Lectures incl. practitioners' best practices, Interactive case studies, Seminar, Case studies, (Short) presentations, Results-oriented presentations in oral and written form • Analyse a project - the goals, the scope, the tasks, etc. • Contribute to the project • Document and present result
5	**Prerequisites for Admission** **Formal: --** **Knowledge and Competencies: -**
6	**Assessment** 100% on the project including documentation and presentation
7	**Requirements for Award of Credits** **e.g.** Successful completion of all courses
8	**Module used in other programmes**
8	**Weighting of the mark for the final grade** EuroMPM-G-3 (3 Sem.): 27% EuroMPM-IT and -G-4 (4 Sem.):25%
10	**Module Leader** Prof. Dr. Dechange
11	**Literature** Bailey, Stephen (2015): Academic Writing – A Handbook for International Students; Routledge, New York Pasian, Beverley (2015): Design, Methods, and Practices for Research of Project Management, Gower, Farnham Saunders, M., Lewis, Ph., & Thornhill, A. (2015). Research Methods for Business Students (7th ed.). Upper Saddle River: Prentice Hall. Yin, R.K. (2015): Qualitative Research from Start to Finish, Second Edition