

# Study plan

## Name of study plan: N-PRI-CP prezen ní navazující studium od 18/19

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page

Garantor of the study branch:

Program of study: Innovation Project Management

Type of study: Follow-up master full-time

Required credits: 120

Elective courses credits: 0

Sum of credits in the plan: 120

Note on the plan:

Name of the block: Compulsory courses

Minimal number of credits of the block: 69

The role of the block: Z

Code of the group: N-PRI-CP 1.S.OD18/19

Name of the group: N-PRI-CP 1. semestr povinné p edm ty od 18/19

Requirement credits in the group: In this group you have to gain 12 credits

Requirement courses in the group: In this group you have to complete 2 courses

Credits in the group: 12

Note on the group:

| Code     | Name of the course / Name of the group of courses<br>(in case of groups of courses the list of codes of their<br>members)<br>Tutors, <b>authors</b> and guarantors (gar.) | Completion | Credits | Scope | Semester | Role |
|----------|---|------------|---------|-------|----------|------|
| G16E1401 | Marketing Innovations   | Z,ZK       | 6       | 2P+2C | Z        | z    |
| G16C1401 | Innovation Marketing  | Z,ZK       | 6       | 2P+2C |          | z    |
| G63C1102 | Statistical Analysis  | Z,ZK       | 6       | 2P+2C |          | z    |

Characteristics of the courses of this group of Study Plan: Code=N-PRI-CP 1.S.OD18/19 Name=N-PRI-CP 1. semestr povinné p edm ty od 18/19

|   |                       |      |   |
|---|-----------------------|------|---|
| G16E1401  | Marketing Innovations | Z,ZK | 6 |
| The primary role of innovation in marketing is to gain new customers, improve goodwill, increase sales and profitability of the company. At the beginning of the innovation process, innovative marketing should help identify new market opportunities and risks and improve the research of customer needs. During developing a new product, innovation marketing is to ensure the constant involvement of customers and users in this process. And at the end of the innovation process, innovation marketing ensures the successful introduction of a new product, technology, and service to the target audience. Innovation marketing should therefore be present at all stages of the innovation process to ensure that customer and market orientation is in line with advances in products and technologies, which often lead to the application of new marketing approaches. We address these main aspects in this subject. |                       |      |   |
| G16C1401  | Innovation Marketing  | Z,ZK | 6 |
| G63C1102  | Statistical Analysis  | Z,ZK | 6 |
| The course builds on the introductory courses of statistics and prefaces slightly advanced statistical analysis methods.  |                       |      |   |

Code of the group: N-PRI-CP 2S OD 18/19

Name of the group: N-PRI-CP 2. semestr od 18/19 povinné p edm ty

Requirement credits in the group: In this group you have to gain 18 credits

Requirement courses in the group: In this group you have to complete 4 courses

Credits in the group: 18

Note on the group:

| Code     | Name of the course / Name of the group of courses<br>(in case of groups of courses the list of codes of their<br>members)<br>Tutors, <b>authors</b> and guarantors (gar.) | Completion | Credits | Scope | Semester | Role |
|----------|---|------------|---------|-------|----------|------|
| G63C2301 | Controlling   | Z,ZK       | 6       | 2P+2C | L        | z    |
| G77E2011 | Industry 4.0  | ZK         | 3       | 2P+0C |          | z    |

|          |   |      |   |       |   |   |
|----------|---|------|---|-------|---|---|
| G63C2201 | <b>Microeconomic Theory</b><br><i>Petr Makovský</i> | ZK   | 3 | 2P+0C | * | z |
| G77C2011 | <b>Industry 4.0</b>                                 | Z,ZK | 3 | 1P+1C |   | z |
| G16C2501 | <b>HR Management Systems</b>                        | Z,ZK | 6 | 2P+2C |   | z |

**Characteristics of the courses of this group of Study Plan: Code=N-PRI-CP 2S OD 18/19 Name=N-PRI-CP 2. semestr od 18/19 povinné p edm ty**

|  |                       |      |   |
|--|-----------------------|------|---|
| G63C2301   | Controlling           | Z,ZK | 6 |
| Controlling methods are presented from the initial detection of deviations to advanced models of managerial decision support in strategic horizons in the context and against the background of the management of basic business processes with an emphasis on the processes determining the effect of added value in the company's activities. The tasks of controlling are systematically explained according to the time perspective in the scope of corporate strategies and operational management, including the role of the controller in the individual phases of management from analysis to reporting. The content of the course is also focused on the presentation of methods and management tools that can be used to manage individual components (entities) in mutual interaction, especially in the area of cost management. Examples of models and case studies and tasks are used to present the key principles of controlling in the company. |                       |      |   |
| G77E2011   | Industry 4.0          | ZK   | 3 |
| 1. Visions of Industry 4.0 2. Virtualization and System Integration of Manufacturing Facilities 3. Knowledge representation of Manufacturing Systems by Multi-Agent and Autonomous Systems 4. Ontological Knowledge 5. Analytical Methods and Big-Data Systems 6. Implementation Architectures for Industry 4.0 Systems 7. Modelling Methods 8. Simulations for Design and Rump-up of Industry 4.0 Systems 9. Modular SCADA Systems 10. Virtual and Augmented Reality Systems 11. Typical Projects of Industry 4.0 12. Typical of Industry 4.0 13. Testbeds and Their Implementation 14. Impacts of Industry 4.0   |                       |      |   |
| G63C2201   | Microeconomic Theory  | ZK   | 3 |
| The course introduces the analysis of the theory of consumer, the theory of firm, and the market interactions of consumers and firms.  |                       |      |   |
| G77C2011   | Industry 4.0          | Z,ZK | 3 |
| 1. Annotation The subject "Industry 4.0" deals with the topic of the fourth industrial revolution, explains concepts, terms and trends in this area. It deals with the history of industrial revolutions, current trends as well as individual technological breakthroughs that are typical for Industry 4.0. It analyzes the effects of "Industry 4.0" on the economy and society as a whole. Last but not least, it deals with the role of the state in the creation of economic and industrial policy, the need for which is generated by "Industry 4.0".   |                       |      |   |
| G16C2501   | HR Management Systems | Z,ZK | 6 |
| The course is focused on the development of managerial skills in managing people in the organization. Through lectures and seminars, students will learn effective strategies, policies and practices for efficient people management in the organization and the main tasks of managers in various activities of people management in the organization.   |                       |      |   |

Code of the group: N-PRI-CP 3S OD 19/20

Name of the group: N-PRI-CP 3. semestr od 19/20 povinné p edm ty

Requirement credits in the group: In this group you have to gain 21 credits

Requirement courses in the group: In this group you have to complete 5 courses

Credits in the group: 21

Note on the group:

| Code     | Name of the course / Name of the group of courses<br>(in case of groups of courses the list of codes of their members)<br><i>Tutors, authors and guarantors (gar.)</i> | Completion | Credits | Scope | Semester | Role |
|----------|--|------------|---------|-------|----------|------|
| G63C3201 | <i>Petr Makovský Petr Makovský Petr Makovský (Gar.)</i>  | ZK         | 3       | 2P+0C | Z        | z    |
| G00C3101 | <b>Diploma Thesis Project</b>  | Z          | 0       | 1P+0C |          | z    |
| G16C3103 |  | Z,ZK       | 6       | 2P+2C |          | z    |
| G16C3102 | <b>Innovation Management and Innovation Project</b>  | Z,ZK       | 6       | 2P+2C |          | z    |
| G16C3101 |  | Z,ZK       | 6       | 2P+2C | Z        | z    |

**Characteristics of the courses of this group of Study Plan: Code=N-PRI-CP 3S OD 19/20 Name=N-PRI-CP 3. semestr od 19/20 povinné p edm ty**

|   |  |      |   |
|---|--|------|---|
| G63C3201  |  | ZK   | 3 |
| G00C3101  | Diploma Thesis Project                       | Z    | 0 |
| G16C3103  |  | Z,ZK | 6 |
| G16C3102  | Innovation Management and Innovation Project | Z,ZK | 6 |
| Concepts of innovation, prerequisites and barriers to innovation, sources of innovation, strategic considerations of innovation, process innovation, product innovation, service innovation, a macroeconomic view of the role of innovation, organizational support and management of innovation, soft methods and techniques of innovation, systematic-analytical methods and techniques of innovation, economic aspects of innovation, intellectual property of innovation and legal aspects. |  |      |   |
| G16C3101  |  | Z,ZK | 6 |

Code of the group: N-PRI-CP 4S OD 19/20

Name of the group: 4. semestr od 19/20 PRI CP povinné p edm ty

Requirement credits in the group: In this group you have to gain 18 credits

Requirement courses in the group: In this group you have to complete 2 courses

Credits in the group: 18

Note on the group:

| Code     | Name of the course / Name of the group of courses<br>(in case of groups of courses the list of codes of their members)<br><i>Tutors, authors and guarantors (gar.)</i> | Completion | Credits | Scope | Semester | Role |
|----------|--|------------|---------|-------|----------|------|
| G00C4102 | Diploma Thesis   | Z          | 12      |       |          | Z    |
| G63C4401 | Information System Design  | Z,ZK       | 6       | 2P+2C |          | Z    |

**Characteristics of the courses of this group of Study Plan: Code=N-PRI-CP 4S OD 19/20 Name=4. semestr od 19/20 PRI CP povinné p edm ty**

|  |                           |  |      |    |
|--|---------------------------|--|------|----|
| G00C4102   | Diploma Thesis            |  | Z    | 12 |
| G63C4401   | Information System Design |  | Z,ZK | 6  |
| Fundamental terms, information systems architecture, basic types of software applications for information system of enterprise, information system lifecycle, approaches to information system development, management information systems, web audit, business process modeling using BPMN, UML and others, information system modeling - UML and data modeling using ER diagrams |                           |  |      |    |

**Name of the block: Compulsory courses in the specialization**

**Minimal number of credits of the block: 3**

**The role of the block: PS**

**Code of the group: N-PRI-CP 4SSPOD19/20**

**Name of the group: 4. semestr od 19/20 PRI p edm ty specializace**

**Requirement credits in the group: In this group you have to gain at least 3 credits (at most 6)**

**Requirement courses in the group: In this group you have to complete at least 1 course ( at most 2)**

**Credits in the group: 3**

**Note on the group:**

| Code     | Name of the course / Name of the group of courses<br>(in case of groups of courses the list of codes of their members)<br><i>Tutors, authors and guarantors (gar.)</i> | Completion | Credits | Scope | Semester | Role |
|----------|--|------------|---------|-------|----------|------|
| G63E4301 | Advanced Topics in Financial Management  | Z          | 3       | 0P+2C | L        | PS   |
| G04E4201 | Concept Note   | Z          | 3       | 0P+2C |          | PS   |
| G65E4101 | European Union and Regional Policy   | ZK         | 3       | 2P+0C |          | PS   |
| G16E0501 | Social Competences in Project and Process Management   | Z          | 3       | 0P+2C |          | PS   |

**Characteristics of the courses of this group of Study Plan: Code=N-PRI-CP 4SSPOD19/20 Name=4. semestr od 19/20 PRI p edm ty specializace**

|   |  |  |    |   |
|---|--|--|----|---|
| G63E4301  | Advanced Topics in Financial Management              |  | Z  | 3 |
| During the course will be studied the strategies for recognizing the financial performance of firms. The market information drawn from the transactions performed at the financial markets will be combined with the internal corporate sources. Several approaches and indicators will be applied to assess the evolution of companies. The course aims at overhaul the path research of the portfolio theory and recognize the main financial models intended to manage the assets. The exercises and theoretical perspective deal with a diversity of strategies developed for assigning a portfolio of investment, combining assets of different degree of risk, underpinning the position with the diversification principle. The overview starts with the pioneering Markowitz contribution; the course analyzes also the Merton Miller model of irrelevance of the equity-debt composition for the corporate structure of capital. The analysis includes also the Sharpe CAPM model. But previously, the student must be aware of all statistical concepts dealing with uncertainty, probability distributions, confidence intervals and probability of default. With the conducting background the course enters in the definition of VaR applications, in order to quantify the amounts of losses based on the probability distribution, based on the Gaussian statistical theory. The estimation of measures of risk conveyed by each individual asset is run by econometric methods. |  |  |    |   |
| G04E4201  | Concept Note   |  | Z  | 3 |
| The aim of the course is the acquisition of language skills, writing strategies and active vocabulary leading to students' ability to independently compose formally and stylistically appropriate texts in English language. The course focuses on practical application of the given phenomena in the field of project/concept note writing. Methodologically, the course relies on formal language analysis, systematic development of specialised vocabulary, competent use of relevant grammar, systematic practice of typical case-study situations, teamwork and giving feedback.  |  |  |    |   |
| G65E4101  | European Union and Regional Policy                   |  | ZK | 3 |
| The course discusses developments in the EU and in the EU Regional Policy from the end of the Cold War until today. It focuses on relevant issues of the integration process. It is based on lectures, class discussions and presentations of various positions present in the debates (group projects / own positions). The objectives of the course are to explain a modern development of the EU, analyse key points in particular areas of integration and practise argumentation skills.   |  |  |    |   |
| G16E0501  | Social Competences in Project and Process Management |  | Z  | 3 |

**Name of the block: Povinné p edm ty zam ení**

**Minimal number of credits of the block: 24**

**The role of the block: PZ**

**Code of the group: N-PRI-CP2S SPOD18/19**

**Name of the group: N-PRI-CP p edm ty specializace 2. semestr od 18/19**

**Requirement credits in the group: In this group you have to gain 6 credits**

**Requirement courses in the group: In this group you have to complete 1 course**

Credits in the group: 6

Note on the group:

| Code     | Name of the course / Name of the group of courses<br>(in case of groups of courses the list of codes of their members)<br><i>Tutors, authors and guarantors (gar.)</i> | Completion | Credits | Scope | Semester | Role |
|----------|--|------------|---------|-------|----------|------|
| G16E0201 | Agile BootCamp   | KZ         | 3       | 0P+2C |          | PZ   |
| G16E2302 | Business Process Management  | Z,ZK       | 6       | 2P+2C |          | PZ   |
| G63E2301 | Financial Markets and Risk Management  | Z,ZK       | 6       | 2P+2C | L        | PZ   |
| G16E0301 | Lean Manufacturing Implementation  | KZ         | 3       | 0P+2C |          | PZ   |
| G16E2201 | Modern Approaches in Project Management  | Z,ZK       | 6       | 2P+2C | L        | PZ   |
| G65E2301 | Regional Development and Planning  | Z,ZK       | 6       | 2P+2C | Z,L      | PZ   |

**Characteristics of the courses of this group of Study Plan: Code=N-PRI-CP2S SPOD18/19 Name=N-PRI-CP p edm ty specializace 2. semestr od 18/19**

|  |   |      |   |
|--|---|------|---|
| G16E0201   | Agile BootCamp                          | KZ   | 3 |
| Agile Bootcamp course teaches students the fundamentals of Design Thinking and other agile innovation principles. The course introduces three methods that work well together within the same cross-functional team: Design Thinking, Lean Startup and Agile across teams. In the main part, it will offer the right tools and techniques for the design and implementation of Design Sprints, including a practical test of the entire process. Teaching mode: completely online or hybrid, at a specific time/week during the semester.  |   |      |   |
| G16E2302   | Business Process Management             | Z,ZK | 6 |
| G63E2301   | Financial Markets and Risk Management   | Z,ZK | 6 |
| The analysis of the management of financial risk recently tends towards strategies for hedging the portfolio, and for designing an investment strategy based on diversification. The course spans broad sections implementing the principles of variable income and fixed income. The Financial Models evolved rapidly from the inception of the Modern Theory of Portfolio. The original Mean - Variance analysis, the CAPM, The Black-Litterman model, the disruptive framework implicit in the Black Scholes model for pricing options and the Bob Merton's contribution, all of them represent theoretical breakthroughs in the field of finance. When tackling this study, solid statistical basis and advanced skills in Excel are required. The analysis of risk relies on Many of the models based on important benchmarks rooted in Mertons options theoretic approach and explains default in structural terms related to the market value of the firms assets as compared to its debt obligations. Other model statistically decomposes observed risky debt prices into default risk premiums. The set of models pretends to measure the credit risk of a loan or a portfolio of loans. In this vein, the curse pursuits to simplify the technical details and analytics surrounding these models, while concentrating on their underlying economics and economic intuition. They learn to use market instruments and market analyses to design efficient investment and hedging strategies and methods for the company capital management hurled to financial markets. |   |      |   |
| G16E0301   | Lean Manufacturing Implementation       | KZ   | 3 |
| G16E2201   | Modern Approaches in Project Management | Z,ZK | 6 |
| G65E2301   | Regional Development and Planning       | Z,ZK | 6 |
| he goal is to understand the reason, mission and specifics of regional and municipal development in the context of European Union as well as Czech Republic, and of planning as a tool of development. Students should know the core European concepts of regional and municipal development. A particular attention will be paid to the Middle-European planning culture and planning system, which is rooted in the mutual interactions between spatial, urban, strategic and environmental planning. Students should perceive development from the perspectives of different stakeholders and professions, and understand the need of cooperation, participation and democracy in practice.   |   |      |   |

Code of the group: N-PRI-CP1S SPOD18/19

Name of the group: N-PRI-CP 1. semestr od 18/19 p edm ty specializa ního bloku

Requirement credits in the group: In this group you have to gain 6 credits

Requirement courses in the group: In this group you have to complete 1 course

Credits in the group: 6

Note on the group:

| Code     | Name of the course / Name of the group of courses<br>(in case of groups of courses the list of codes of their members)<br><i>Tutors, authors and guarantors (gar.)</i> | Completion | Credits | Scope | Semester | Role |
|----------|--|------------|---------|-------|----------|------|
| G63E1301 | Corporate Financial Management   | Z,ZK       | 6       | 2P+2C |          | PZ   |
| G16E1302 | Lean Manufacturing   | Z,ZK       | 6       | 2P+2C |          | PZ   |
| G65E1301 | Smart Cities and Regions   | Z,ZK       | 6       | 2P+2C |          | PZ   |
| G16E1201 | Standards of Project Management  | Z,ZK       | 6       | 2P+2C |          | PZ   |

**Characteristics of the courses of this group of Study Plan: Code=N-PRI-CP1S SPOD18/19 Name=N-PRI-CP 1. semestr od 18/19 p edm ty specializa ního bloku**

|  |                                |      |   |
|--|--------------------------------|------|---|
| G63E1301   | Corporate Financial Management | Z,ZK | 6 |
| Analysis of financial techniques of corporations and firms when facing the financial markets. The portfolio analysis and the implications for the Corporative Management Modelling the parameters and alternatives for valuating the company. Applied tools for understanding the credit operations on the market. Elaboration of amortization tables. The course is organized 2 lectures (mean 90 minutes) weekly, 2 seminars (90 minutes) weekly. 6 credits. Z zápo et, ZK zkouška (preliminary test and exam). This is composed by a theoretical instruction and a practical development. Heavily supported by Excel functions and formulas.  |                                |      |   |
| G16E1302   | Lean Manufacturing             | Z,ZK | 6 |
| As a result of completing this course, the student should be able to: Describe and explain the main significance, meaning, and functions of innovation management with a focus on Lean production applications in the workplace. Explain the relationship between management, innovation management, and the main departments of the company. Characterize pre-production, production, and manufacturing processes and related Lean manufacturing innovation processes. Create an innovation strategy and an innovation project with a focus on Lean. Clarify the importance of joint planning/forecasting of upcoming Lean products, services, and production technologies in the company. Etc. |                                |      |   |

|   |                                 |      |   |
|---|---------------------------------|------|---|
| G65E1301  | Smart Cities and Regions        | Z,ZK | 6 |
| Smart Cities and Smart Regions study introduces students to the interdisciplinary issue Smart Cities, preparing concept SC and its planning and indicators.   |                                 |      |   |
| G16E1201  | Standards of Project Management | Z,ZK | 6 |
| The subject acquaints students with good experience in the field of standards of project management After completing the course, students will be prepared to pass the international professional examinations. |                                 |      |   |

Code of the group: N-PRI-CP1.S.SPOD1819

Name of the group: N-PRI-CP 1. semestr povinné p edm ty specializace od 18/19

Requirement credits in the group: In this group you have to gain 12 credits

Requirement courses in the group: In this group you have to complete 2 courses

Credits in the group: 12

Note on the group:

| Code     | Name of the course / Name of the group of courses<br>(in case of groups of courses the list of codes of their members)<br><i>Tutors, authors and guarantors (gar.)</i> | Completion | Credits | Scope | Semester | Role |
|----------|--|------------|---------|-------|----------|------|
| G16C1302 |  | Z,ZK       | 6       | 2P+2C |          | PZ   |
| G16C1201 | Project Management   | Z,ZK       | 6       | 2P+2C |          | PZ   |
| G63C1301 | Corporate Financial Management   | Z,ZK       | 6       | 2P+2C |          | PZ   |

Characteristics of the courses of this group of Study Plan: Code=N-PRI-CP1.S.SPOD1819 Name=N-PRI-CP 1. semestr povinné p edm ty specializace od 18/19

|   |                                |      |   |
|---|--------------------------------|------|---|
| G16C1302  |                                | Z,ZK | 6 |
| G16C1201  | Project Management             | Z,ZK | 6 |
| G63C1301  | Corporate Financial Management | Z,ZK | 6 |
| The course provides a comprehensive view of building the essential aspects of financial management of business processes and projects. Students have the opportunity to understand the main concepts, tools and methods of financial management of processes and projects and their use in decision-making practice. Substantial emphasis is placed on evaluating the financial performance of the company, evaluation and valuation of tangible and financial investment projects, working capital management, methods of financing the company, project financing, methods of financial planning and forecasting, and valuation techniques. |                                |      |   |

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 21

The role of the block: PV

Code of the group: N-PRI-CP PV 18/19

Name of the group: Navazující prezen ní studium od 18/19 - povinn volitelné p edm ty

Requirement credits in the group: In this group you have to gain at least 12 credits

Requirement courses in the group: In this group you have to complete at least 2 courses

Credits in the group: 12

Note on the group:

| Code     | Name of the course / Name of the group of courses<br>(in case of groups of courses the list of codes of their members)<br><i>Tutors, authors and guarantors (gar.)</i> | Completion | Credits | Scope | Semester | Role |
|----------|--|------------|---------|-------|----------|------|
| G16E0201 | Agile BootCamp   | KZ         | 3       | 0P+2C |          | PV   |
| G16C0101 | Balanced Scorecard   | Z,ZK       | 6       | 2P+2C | Z,L      | PV   |
| G63C0401 | Competitive Intelligence   | ZK         | 3       | 0P+2C | Z,L      | PV   |
| G04E0201 | English for Intercultural Communication  | Z,ZK       | 6       | 0P+4C | Z,L      | PV   |
| G65E4101 | European Union and Regional Policy   | ZK         | 3       | 2P+0C |          | PV   |
| G04E0203 | Global Virtual Teams   | Z,ZK       | 6       | 0P+4C | Z,L      | PV   |
| G65C0101 | Competitiveness of Cities  | Z,ZK       | 6       | 2P+2C |          | PV   |
| G65C0301 | Corporate Law  | ZK         | 3       | 2P+0C | L        | PV   |
| G04E0202 | Meetings and Negotiations in English   | Z,ZK       | 6       | 0P+4C | L        | PV   |
| G63C0301 | Valuation of Firm and Projects   | Z,ZK       | 6       | 2P+2C | L        | PV   |
| G66C0101 | Reflections of Technical Innovations in Culture  | ZK         | 3       | 2P+0C | L        | PV   |
| G63C0302 | Corporate Crisis   | Z,ZK       | 3       | 2P+0C | L        | PV   |
| G65C0103 |  | Z,ZK       | 3       | 1P+1C |          | PV   |
| G16C0104 | Solving Real World Problems  | ZK         | 3       | 0P+2C |          | PV   |
| G65C0102 | Public Administration Management and Decision-Making   | ZK         | 3       | 2P+0C | L        | PV   |

|          |   |      |   |       |  |    |
|----------|---|------|---|-------|--|----|
| G16E0501 | <b>Social Competences in Project and Process Management</b> | Z    | 3 | 0P+2C |  | PV |
| G16C0602 | <b>Technology Transfer</b>                                  | Z,ZK | 6 | 2P+2C |  | PV |
| G88E0201 | <b>Selected Chapters of Innovation Management A-1</b>       | ZK   | 6 | 2P+2C |  | PV |
| G88E0202 | <b>Selected Chapters of Innovation Management A-2</b>       | ZK   | 6 | 2P+2C |  | PV |
| G88E0203 | <b>Selected Chapters of Innovation Management B-1</b>       | ZK   | 3 | 2P+0C |  | PV |
| G88E0204 | <b>Selected Chapters of Innovation Management B-2</b>       | ZK   | 3 | 2P+0C |  | PV |
| G88E0205 | <b>Foreign Experience</b>                                   | Z    | 6 | 0P+4C |  | PV |

**Characteristics of the courses of this group of Study Plan: Code=N-PRI-CP PV 18/19 Name=Navazující prezen ní studium od 18/19 - povinn volitelné p edm ty**

|  |  |      |   |
|--|--|------|---|
| G65E4101   | European Union and Regional Policy                   | ZK   | 3 |
| The course discusses developments in the EU and in the EU Regional Policy from the end of the Cold War until today. It focuses on relevant issues of the integration process. It is based on lectures, class discussions and presentations of various positions present in the debates (group projects / own positions). The objectives of the course are to explain a modern development of the EU, analyse key points in particular areas of integration and practise argumentation skills.  |  |      |   |
| G16E0501   | Social Competences in Project and Process Management | Z    | 3 |
| G16E0201   | Agile BootCamp                                       | KZ   | 3 |
| Agile Bootcamp course teaches students the fundamentals of Design Thinking and other agile innovation principles. The course introduces three methods that work well together within the same cross-functional team: Design Thinking, Lean Startup and Agile across teams. In the main part, it will offer the right tools and techniques for the design and implementation of Design Sprints, including a practical test of the entire process. Teaching mode: completely online or hybrid, at a specific time/week during the semester.  |  |      |   |
| G16C0101   | Balanced Scorecard                                   | Z,ZK | 6 |
| G63C0401   | Competitive Intelligence                             | ZK   | 3 |
| Competitive (Technical) Intelligence is a process of collecting, analyzing and disseminating data, information and knowledge about technologies in order to be informed about a state of the innovations, technology trends and possible future developments, and to have a better initial position for strategic planning and decision-making.  |  |      |   |
| G04E0201   | English for Intercultural Communication              | Z,ZK | 6 |
| The seminar will focus on the importance of accuracy and comprehension in communication in a foreign language, and highlight cultural differences influencing communication, and examine the role of language means in intercultural negotiations. Outline of the subject: . Approaches to culture . Cultural and language context in communication . Intercultural theories and their influence on behaviour and language expression . International English as lingua franca . The most common mistakes as a cause of misunderstanding . Language practice and activities . Case studies on individual topics Language level: CEFR B2  |  |      |   |
| G04E0203   | Global Virtual Teams                                 | Z,ZK | 6 |
| At the heart of this course is an intercultural exchange which students will conduct online in Global Virtual Teams (GVTs) with students of Business and Economics of Dublin City University(Ireland), Masaryk University (Czech Republic), Paderborn University (Germany) and Tampere University of Applied Sciences (Finland). Working in culturally mixed virtual teams and using English as their lingua franca, students will complete tasks collaboratively and present joint results at the end of the exchange in the form of a report and a video presentation. They will apply analysis of cross-cultural frameworks in business context - a product, service, company or business process. Theoretical input on working in GVTs forms the basis of class sessions and feeds into students' GVT projects. In the final part of the course, students draw on the exchange experience and aspects of GVT theory to write individually a paper. |  |      |   |
| G65C0101   | Competitiveness of Cities                            | Z,ZK | 6 |
| G65C0301   | Corporate Law  | ZK   | 3 |
| The subject Corporate law is focused on familiarize the students with business corporations and business groups. The legal framework can be found mainly in the Civil Code and the Business Corporations Act. The subject is taught in form of lectures and ends with an exam.   |  |      |   |
| G04E0202   | Meetings and Negotiations in English                 | Z,ZK | 6 |
| English for Meetings and Negotiations is part of a series of courses for follow-up students focused on functional language. The course is intended for students at the upper intermediate level. The course focuses on a collaborative model of the English language intended for a range of business or business meetings and negotiations. Although the course is not primarily focused on confrontational negotiation and communication strategies, part of the explanation is devoted to strategies and language for preventing and coping with confrontational situations. The course is based on the modern, increasingly widespread model of "International English", ie international English understood as lingua franca. Listening materials work with recordings of native speakers of all English styles and focus on collocations and idiomatics of American and British English.   |  |      |   |
| G63C0301   | Valuation of Firm and Projects                       | Z,ZK | 6 |
| The aim of the course is to acquaint students with the measurement and management of enterprise value so that they are able to make qualified estimate of the value of the company, depending on the stage of its life cycle, expected development and current financial condition. Students will learn about options of approaching the valuating and ensuing methods and gain skills in the application of basic methods. Practical skills will be acquired through case studies.  |  |      |   |
| G66C0101   | Reflections of Technical Innovations in Culture      | ZK   | 3 |
| The subject is intended for students of the Master's study program Project Management of Innovations. The teaching is aimed at gaining a wide range of knowledge from the field of innovation processes, for the understanding and internalization of which a deep understanding of the connections between science and culture is an absolutely key.  |  |      |   |
| G63C0302   | Corporate Crisis                                     | Z,ZK | 3 |
| The aim of the course is an introduction of negative impacts of internal and external factors on the corporate life cycle. Crisis and corporate default are a natural phenomenon in the economy. It is important for students to be prepared on such a possible development and to have the knowledge to eventually reverse the unfavourable corporate development Knowledge should be in economic as well as in legislative perspective. The course will be especially based on case studies and practical applications respecting current economic reality and legal regulation.   |  |      |   |
| G65C0103   |  | Z,ZK | 3 |
| G16C0104   | Solving Real World Problems                          | ZK   | 3 |
| The aim of the course is to apply knowledge from the field of economics and management acquired during the study to solve real problems from economic practice. According to the client's assignment, students solve the problem with the support of teachers who become their mentors.  |  |      |   |
| G65C0102   | Public Administration Management and Decision-Making | ZK   | 3 |
| G16C0602   | Technology Transfer                                  | Z,ZK | 6 |
| The Course will guide students through a preparation of feasibility study and business plan of technologies developed at Universities and research centres. All significant aspects must be considered including Intellectual Property, Competitors, Markets, legal aspects and financing before establishment of technology spin-off or out-licensing the technology. Finally, this strategic analysis will be used for valuation of the technology.  |  |      |   |
| G88E0201   | Selected Chapters of Innovation Management A-1       | ZK   | 6 |
| G88E0202   | Selected Chapters of Innovation Management A-2       | ZK   | 6 |

|  |  |    |   |
|--|--|----|---|
| G88E0203   | Selected Chapters of Innovation Management B-1 | ZK | 3 |
| Students are able to understand and analyze the distribution of resources as an important factor of European integration. They are able to examine the cohesion impact of the main European Union policies. Areas covered include the single market, external trade policy, competition and enterprise policies, research and technological development, social and employment, structural policies. The module emphasizes the relationships that exist between European Union policy interventions and their final impact in different countries, and competitiveness and cohesion. |  |    |   |
| G88E0204   | Selected Chapters of Innovation Management B-2 | ZK | 3 |
| G88E0205   | Foreign Experience                             | Z  | 6 |

Code of the group: N-PRI-CP PVT OD18/19

Name of the group: N-PRI-CP od 18/19 povinn voliteľné technické p edm ty

Requirement credits in the group: In this group you have to gain at least 9 credits

Requirement courses in the group: In this group you have to complete at least 2 courses

Credits in the group: 9

Note on the group:

| Code     | Name of the course / Name of the group of courses<br>(in case of groups of courses the list of codes of their members)<br><i>Tutors, authors and guarantors (gar.)</i> | Completion | Credits | Scope | Semester | Role |
|----------|--|------------|---------|-------|----------|------|
| G77E0011 | Environmental Technology   | ZK         | 3       | 2P+0C |          | PV   |
| G77C0001 | Technology Assessment  | ZK         | 3       | 2P+0C | Z,L      | PV   |
| G77C0007 | Communication Systems and Networks   | ZK         | 3       | 2P+0C |          | PV   |
| G77C0003 | Transportation Engineering Projects  | ZK         | 3       | 2P+0C | Z,L      | PV   |
| G77C0008 | Robotics   | Z,ZK       | 6       | 2P+2C |          | PV   |
| G16C0601 | Technology Forecasting   | Z,ZK       | 3       | 1P+1C |          | PV   |
| G77C0004 | Smart Cities Technologies  | ZK         | 3       | 2P+0C | Z,L      | PV   |
| G77C0002 | Sustainable Development and the Construction Industry  | ZK         | 3       | 2P+0C |          | PV   |
| G77C0010 | Introduction to Biomedical Engineering   | Z          | 3       | 1P+1C |          | PV   |
| G77C0005 | Selected Innovative Techniques and Technologies 1  | ZK         | 6       | 2P+2C | Z,L      | PV   |
| G77C0006 | Selected Innovative Techniques and Technologies 2  | ZK         | 3       | 2P+0C | Z,L      | PV   |
| G77C0009 | Information Security Management and Implementation   | ZK         | 3       | 2P+0C |          | PV   |

Characteristics of the courses of this group of Study Plan: Code=N-PRI-CP PVT OD18/19 Name=N-PRI-CP od 18/19 povinn voliteľné technické p edm ty

|   |   |      |   |
|---|---|------|---|
| G77E0011  | Environmental Technology                              | ZK   | 3 |
| G77C0001  | Technology Assessment                                 | ZK   | 3 |
| G77C0007  | Communication Systems and Networks                    | ZK   | 3 |
| Telecommunications: What does it all mean? We look into history and the future. We'll try it wired and wireless, even at the speed of light (or almost...), on land, underwater, and in space. For example: How is electric current created? Painter Morse. Alexander, ring the bell! Telecommunications from the plane. Do you know a Twisted Pair? How a landline works. How the telephone network becomes the Internet. Light and dark. Transmission of information by light. Why are networks "mobile"? 1G, 2G, 3G, 4G, 5G, etc. The more G, the better. How here and how elsewhere? Satellite systems (J. Kepler + A. C. Clarke = E. Musk). What do Saturn and Earth have in common? Does navigation know about me? We will walk around akovice. How television (including Internet) works. A football match and a drastic Clash of the Titans. WiFi not working? What now Why the Internet is not for people but for things. The biggest mistakes in the history of telco business. The subject scrupulously avoids formulas and mathematical relationships (however, it does not always succeed...) - the keywords are principles and clarity. |   |      |   |
| G77C0003  | Transportation Engineering Projects                   | ZK   | 3 |
| G77C0008  | Robotics  | Z,ZK | 6 |
| G16C0601  | Technology Forecasting                                | Z,ZK | 3 |
| G77C0004  | Smart Cities Technologies                             | ZK   | 3 |
| The subject Technology for Smart Cities introduces students to the interdisciplinary problematics of smart cities and places it in the context of the technological, social and economic development of society.  |   |      |   |
| G77C0002  | Sustainable Development and the Construction Industry | ZK   | 3 |
| G77C0010  | Introduction to Biomedical Engineering                | Z    | 3 |
| G77C0005  | Selected Innovative Techniques and Technologies 1     | ZK   | 6 |
| G77C0006  | Selected Innovative Techniques and Technologies 2     | ZK   | 3 |
| G77C0009  | Information Security Management and Implementation    | ZK   | 3 |

Name of the block: Povinné p edm ty zam ení

Minimal number of credits of the block: 3

The role of the block: ZZ

Code of the group: N-PRI-CP3S SPOD19/20

Name of the group: N-PRI-CP 3. semestr p edm ty specializace

Requirement credits in the group: In this group you have to gain at least 3 credits (at most 9)

Requirement courses in the group: In this group you have to complete at least 1 course ( at most 3)

Credits in the group: 3

Note on the group:

| Code     | Name of the course / Name of the group of courses<br>(in case of groups of courses the list of codes of their members)<br><i>Tutors, authors and guarantors (gar.)</i> | Completion | Credits | Scope | Semester | Role |
|----------|--|------------|---------|-------|----------|------|
| G16E0201 | Agile BootCamp   | KZ         | 3       | 0P+2C |          | ZZ   |
| G65E3101 | City Competitiveness   | ZK         | 3       | 2P+0C | Z        | ZZ   |
| G04E4201 | Concept Note   | Z          | 3       | 0P+2C |          | ZZ   |
| G63E3301 | Economic and Financial Modelling   | KZ         | 3       | 0P+2C |          | ZZ   |
| G16E3301 | Six Sigma  | ZK         | 3       | 0P+2C |          | ZZ   |
| G16E0501 | Social Competences in Project and Process Management   | Z          | 3       | 0P+2C |          | ZZ   |

**Characteristics of the courses of this group of Study Plan: Code=N-PRI-CP3S SPOD19/20 Name=N-PRI-CP 3. semestr p edm ty specialize**

|  |  |    |   |
|--|--|----|---|
| G04E4201   | Concept Note   | Z  | 3 |
| The aim of the course is the acquisition of language skills, writing strategies and active vocabulary leading to students' ability to independently compose formally and stylistically appropriate texts in English language. The course focuses on practical application of the given phenomena in the field of project/concept note writing. Methodologically, the course relies on formal language analysis, systematic development of specialised vocabulary, competent use of relevant grammar, systematic practice of typical case-study situations, teamwork and giving feedback. |  |    |   |
| G16E0501   | Social Competences in Project and Process Management | Z  | 3 |
| G16E0201   | Agile BootCamp                                       | KZ | 3 |
| Agile Bootcamp course teaches students the fundamentals of Design Thinking and other agile innovation principles. The course introduces three methods that work well together within the same cross-functional team: Design Thinking, Lean Startup and Agile across teams. In the main part, it will offer the right tools and techniques for the design and implementation of Design Sprints, including a practical test of the entire process. Teaching mode: completely online or hybrid, at a specific time/week during the semester.  |  |    |   |
| G65E3101   | City Competitiveness                                 | ZK | 3 |
| In the contemporary globalizing world cities increasingly find themselves in a competitive environment. The development of one settlement is often possible at the expense of the declination of another. The aim of the course is to acquaint students with current problems of the contemporary city and with basic strategies to solve them. Relevant case studies from practice will be used as part of the course teaching.   |  |    |   |
| G63E3301   | Economic and Financial Modelling                     | KZ | 3 |
| The course is organized in 2 seminars weekly, 3 credits. Analyzing and solving models of optimal allocation of assets, management of risk, and Portfolio allocation  |  |    |   |
| G16E3301   | Six Sigma  | ZK | 3 |
| The course is aimed at practical application of how the individual components (methods and techniques - mainly applied statistical methods and techniques) used in this approach and a common application of these components throughout the DMAIC cycle (Define, Measure, Analyze, Improve, Control).   |  |    |   |

### List of courses of this pass:

| Code  | Name of the course                      | Completion | Credits |
|---|---|------------|---------|
| G00C3101  | Diploma Thesis Project                  | Z          | 0       |
| G00C4102  | Diploma Thesis                          | Z          | 12      |
| G04E0201  | English for Intercultural Communication | Z,ZK       | 6       |
| The seminar will focus on the importance of accuracy and comprehension in communication in a foreign language, and highlight cultural differences influencing communication, and examine the role of language means in intercultural negotiations. Outline of the subject: . Approaches to culture . Cultural and language context in communication . Intercultural theories and their influence on behaviour and language expression . International English as lingua franca . The most common mistakes as a cause of misunderstanding . Language practice and activities . Case studies on individual topics Language level: CEFR B2   |   |            |         |
| G04E0202  | Meetings and Negotiations in English    | Z,ZK       | 6       |
| English for Meetings and Negotiations is part of a series of courses for follow-up students focused on functional language. The course is intended for students at the upper intermediate level. The course focuses on a collaborative model of the English language intended for a range of business or business meetings and negotiations. Although the course is not primarily focused on confrontational negotiation and communication strategies, part of the explanation is devoted to strategies and language for preventing and coping with confrontational situations. The course is based on the modern, increasingly widespread model of "International English", ie international English understood as lingua franca. Listening materials work with recordings of native speakers of all English styles and focus on collocations and idiomatics of American and British English.  |   |            |         |
| G04E0203  | Global Virtual Teams                    | Z,ZK       | 6       |
| At the heart of this course is an intercultural exchange which students will conduct online in Global Virtual Teams (GVTs) with students of Business and Economics of Dublin City University(Ireland), Masaryk University (Czech Republic), Padeborn University (Germany) and Tampere University of Applied Sciences (Finland). Working in culturally mixed virtual teams and using English as their lingua franca, students will complete tasks collaboratively and present joint results at the end of the exchange in the form of a report and a video presentation. They will apply analysis of cross-cultural frameworks in business context - a product, service, company or business process. Theoretical input on working in GVTs forms the basis of class sessions and feeds into students' GVT projects. In the final part of the course, students draw on the exchange experience and aspects of GVT theory to write individually a paper. |   |            |         |
| G04E4201  | Concept Note                            | Z          | 3       |
| The aim of the course is the acquisition of language skills, writing strategies and active vocabulary leading to students' ability to independently compose formally and stylistically appropriate texts in English language. The course focuses on practical application of the given phenomena in the field of project/concept note writing. Methodologically, the course   |   |            |         |



|   |  |      |   |
|---|--|------|---|
| relies on formal language analysis, systematic development of specialised vocabulary, competent use of relevant grammar, systematic practice of typical case-study situations, teamwork and giving feedback.  |  |      |   |
| G16C0101  | Balanced Scorecard                                   | Z,ZK | 6 |
| G16C0104  | Solving Real World Problems                          | ZK   | 3 |
| The aim of the course is to apply knowledge from the field of economics and management acquired during the study to solve real problems from economic practice. According to the client's assignment, students solve the problem with the support of teachers who become their mentors.   |  |      |   |
| G16C0601  | Technology Forecasting                               | Z,ZK | 3 |
| G16C0602  | Technology Transfer                                  | Z,ZK | 6 |
| The Course will guide students through a preparation of feasibility study and business plan of technologies developed at Universities and research centres. All significant aspects must be considered including Intellectual Property, Competitors, Markets, legal aspects and financing before establishment of technology spin-off or out-licensing the technology. Finally, this strategic analysis will be used for valuation of the technology.   |  |      |   |
| G16C1201  | Project Management                                   | Z,ZK | 6 |
| G16C1302  |  | Z,ZK | 6 |
| G16C1401  | Innovation Marketing                                 | Z,ZK | 6 |
| G16C2501  | HR Management Systems                                | Z,ZK | 6 |
| The course is focused on the development of managerial skills in managing people in the organization. Through lectures and seminars, students will learn effective strategies, policies and practices for efficient people management in the organization and the main tasks of managers in various activities of people management in the organization.  |  |      |   |
| G16C3101  |  | Z,ZK | 6 |
| G16C3102  | Innovation Management and Innovation Project         | Z,ZK | 6 |
| Concepts of innovation, prerequisites and barriers to innovation, sources of innovation, strategic considerations of innovation, process innovation, product innovation, service innovation, a macroeconomic view of the role of innovation, organizational support and management of innovation, soft methods and techniques of innovation, systematic-analytical methods and techniques of innovation, economic aspects of innovation, intellectual property of innovation and legal aspects.   |  |      |   |
| G16C3103  |  | Z,ZK | 6 |
| G16E0201  | Agile BootCamp                                       | KZ   | 3 |
| Agile Bootcamp course teaches students the fundamentals of Design Thinking and other agile innovation principles. The course introduces three methods that work well together within the same cross-functional team: Design Thinking, Lean Startup and Agile across teams. In the main part, it will offer the right tools and techniques for the design and implementation of Design Sprints, including a practical test of the entire process. Teaching mode: completely online or hybrid, at a specific time/week during the semester.   |  |      |   |
| G16E0301  | Lean Manufacturing Implementation                    | KZ   | 3 |
| G16E0501  | Social Competences in Project and Process Management | Z    | 3 |
| G16E1201  | Standards of Project Management                      | Z,ZK | 6 |
| The subject acquaints students with good experience in the field of standards of project management After completing the course, students will be prepared to pass the international professional examinations.   |  |      |   |
| G16E1302  | Lean Manufacturing                                   | Z,ZK | 6 |
| As a result of completing this course, the student should be able to: Describe and explain the main significance, meaning, and functions of innovation management with a focus on Lean production applications in the workplace. Explain the relationship between management, innovation management, and the main departments of the company. Characterize pre-production, production, and manufacturing processes and related Lean manufacturing innovation processes. Create an innovation strategy and an innovation project with a focus on Lean. Clarify the importance of joint planning/forecasting of upcoming Lean products, services, and production technologies in the company. Etc.  |  |      |   |
| G16E1401  | Marketing Innovations                                | Z,ZK | 6 |
| The primary role of innovation in marketing is to gain new customers, improve goodwill, increase sales and profitability of the company. At the beginning of the innovation process, innovative marketing should help identify new market opportunities and risks and improve the research of customer needs. During developing a new product, innovation marketing is to ensure the constant involvement of customers and users in this process. And at the end of the innovation process, innovation marketing ensures the successful introduction of a new product, technology, and service to the target audience. Innovation marketing should therefore be present at all stages of the innovation process to ensure that customer and market orientation is in line with advances in products and technologies, which often lead to the application of new marketing approaches. We address these main aspects in this subject. |  |      |   |
| G16E2201  | Modern Approaches in Project Management              | Z,ZK | 6 |
| G16E2302  | Business Process Management                          | Z,ZK | 6 |
| G16E3301  | Six Sigma  | ZK   | 3 |
| The course is aimed at practical application of how the individual components (methods and techniques - mainly applied statistical methods and techniques) used in this approach and a common application of these components throughout the DMAIC cycle (Define, Measure, Analyze, Improve, Control).  |  |      |   |
| G63C0301  | Valuation of Firm and Projects                       | Z,ZK | 6 |
| The aim of the course is to acquaint students with the measurement and management of enterprise value so that they are able to make qualified estimate of the value of the company, depending on the stage of its life cycle, expected development and current financial condition. Students will learn about options of approaching the valuating and ensuing methods and gain skills in the application of basic methods. Practical skills will be acquired through case studies.   |  |      |   |
| G63C0302  | Corporate Crisis                                     | Z,ZK | 3 |
| The aim of the course is an introduction of negative impacts of internal and external factors on the corporate life cycle. Crisis and corporate default are a natural phenomenon in the economy. It is important for students to be prepared on such a possible development and to have the knowledge to eventually reverse the unfavourable corporate development Knowledge should be in economic as well as in legislative perspective. The course will be especially based on case studies and practical applications respecting current economic reality and legal regulation.  |  |      |   |
| G63C0401  | Competitive Intelligence                             | ZK   | 3 |
| Competitive (Technical) Intelligence is a process of collecting, analyzing and disseminating data, information and knowledge about technologies in order to be informed about a state of the innovations, technology trends and possible future developments, and to have a better initial position for strategic planning and decision-making.   |  |      |   |
| G63C1102  | Statistical Analysis                                 | Z,ZK | 6 |
| The course builds on the introductory courses of statistics and prefaces slightly advanced statistical analysis methods.  |  |      |   |
| G63C1301  | Corporate Financial Management                       | Z,ZK | 6 |
| The course provides a comprehensive view of building the essential aspects of financial management of business processes and projects. Students have the opportunity to understand the main concepts, tools and methods of financial management of processes and projects and their use in decision-making practice. Substantial emphasis is placed on evaluating the financial performance of the company, evaluation and valuation of tangible and financial investment projects, working capital management, methods of financing the company, project financing, methods of financial planning and forecasting, and valuation techniques.   |  |      |   |
| G63C2201  | Microeconomic Theory                                 | ZK   | 3 |
| The course introduces the analysis of the theory of consumer, the theory of firm, and the market interactions of consumers and firms.   |  |      |   |

|   |   |      |   |
|---|---|------|---|
| G63C2301  | Controlling   | Z,ZK | 6 |
| Controlling methods are presented from the initial detection of deviations to advanced models of managerial decision support in strategic horizons in the context and against the background of the management of basic business processes with an emphasis on the processes determining the effect of added value in the company's activities. The tasks of controlling are systematically explained according to the time perspective in the scope of corporate strategies and operational management, including the role of the controller in the individual phases of management from analysis to reporting. The content of the course is also focused on the presentation of methods and management tools that can be used to manage individual components (entities) in mutual interaction, especially in the area of cost management. Examples of models and case studies and tasks are used to present the key principles of controlling in the company.  |   |      |   |
| G63C3201  |   | ZK   | 3 |
| G63C4401  | Information System Design                             | Z,ZK | 6 |
| Fundamental terms, information systems architecture, basic types of software applications for information system of enterprise, information system lifecycle, approaches to information system development, management information systems, web audit, business process modeling using BPMN, UML and others, information system modeling - UML and data modeling using ER diagrams  |   |      |   |
| G63E1301  | Corporate Financial Management                        | Z,ZK | 6 |
| Analysis of financial techniques of corporations and firms when facing the financial markets. The portfolio analysis and the implications for the Corporate Management Modelling the parameters and alternatives for valuating the company. Applied tools for understanding the credit operations on the market. Elaboration of amortization tables. The course is organized 2 lectures (mean 90 minutes) weekly, 2 seminars (90 minutes) weekly. 6 credits. Z zápočet, ZK zkouška (preliminary test and exam). This is composed by a theoretical instruction and a practical development. Heavily supported by Excel functions and formulas.   |   |      |   |
| G63E2301  | Financial Markets and Risk Management                 | Z,ZK | 6 |
| The analysis of the management of financial risk recently tends towards strategies for hedging the portfolio, and for designing an investment strategy based on diversification. The course spans broad sections implementing the principles of variable income and fixed income. The Financial Models evolved rapidly from the inception of the Modern Theory of Portfolio. The original Mean - Variance analysis, the CAPM, The Black-Litterman model, the disruptive framework implicit in the Black Scholes model for pricing options and the Bob Merton's contribution, all of them represent theoretical breakthroughs in the field of finance. When tackling this study, solid statistical basis and advanced skills in Excel are required. The analysis of risk relies on Many of the models based on important benchmarks rooted in Merton's options theoretic approach and explains default in structural terms related to the market value of the firms assets as compared to its debt obligations. Other model statistically decomposes observed risky debt prices into default risk premiums. The set of models pretends to measure the credit risk of a loan or a portfolio of loans. In this vein, the course pursues to simplify the technical details and analytics surrounding these models, while concentrating on their underlying economics and economic intuition. They learn to use market instruments and market analyses to design efficient investment and hedging strategies and methods for the company capital management hurled to financial markets. |   |      |   |
| G63E3301  | Economic and Financial Modelling                      | KZ   | 3 |
| The course is organized in 2 seminars weekly, 3 credits. Analyzing and solving models of optimal allocation of assets, management of risk, and Portfolio allocation   |   |      |   |
| G63E4301  | Advanced Topics in Financial Management               | Z    | 3 |
| During the course will be studied the strategies for recognizing the financial performance of firms. The market information drawn from the transactions performed at the financial markets will be combined with the internal corporate sources. Several approaches and indicators will be applied to assess the evolution of companies. The course aims at overhaul the path research of the portfolio theory and recognize the main financial models intended to manage the assets. The exercises and theoretical perspective deal with a diversity of strategies developed for assigning a portfolio of investment, combining assets of different degree of risk, underpinning the position with the diversification principle. The overview starts with the pioneering Markowitz contribution; the course analyzes also the Merton Miller model of irrelevance of the equity-debt composition for the corporate structure of capital. The analysis includes also the Sharpe CAPM model. But previously, the student must be aware of all statistical concepts dealing with uncertainty, probability distributions, confidence intervals and probability of default. With the conducting background the course enters in the definition of VaR applications, in order to quantify the amounts of losses based on the probability distribution, based on the Gaussian statistical theory. The estimation of measures of risk conveyed by each individual asset is run by econometric methods.   |   |      |   |
| G65C0101  | Competitiveness of Cities                             | Z,ZK | 6 |
| G65C0102  | Public Administration Management and Decision-Making  | ZK   | 3 |
| G65C0103  |   | Z,ZK | 3 |
| G65C0301  | Corporate Law   | ZK   | 3 |
| The subject Corporate law is focused on familiarize the students with business corporations and business groups. The legal framework can be found mainly in the Civil Code and the Business Corporations Act. The subject is taught in form of lectures and ends with an exam.  |   |      |   |
| G65E1301  | Smart Cities and Regions                              | Z,ZK | 6 |
| Smart Cities and Smart Regions study introduces students to the interdisciplinary issue Smart Cities, preparing concept SC and its planning and indicators.   |   |      |   |
| G65E2301  | Regional Development and Planning                     | Z,ZK | 6 |
| The goal is to understand the reason, mission and specifics of regional and municipal development in the context of European Union as well as Czech Republic, and of planning as a tool of development. Students should know the core European concepts of regional and municipal development. A particular attention will be paid to the Middle-European planning culture and planning system, which is rooted in the mutual interactions between spatial, urban, strategic and environmental planning. Students should perceive development from the perspectives of different stakeholders and professions, and understand the need of cooperation, participation and democracy in practice.   |   |      |   |
| G65E3101  | City Competitiveness                                  | ZK   | 3 |
| In the contemporary globalizing world cities increasingly find themselves in a competitive environment. The development of one settlement is often possible at the expense of the declination of another. The aim of the course is to acquaint students with current problems of the contemporary city and with basic strategies to solve them. Relevant case studies from practice will be used as part of the course teaching.  |   |      |   |
| G65E4101  | European Union and Regional Policy                    | ZK   | 3 |
| The course discusses developments in the EU and in the EU Regional Policy from the end of the Cold War until today. It focuses on relevant issues of the integration process. It is based on lectures, class discussions and presentations of various positions present in the debates (group projects / own positions). The objectives of the course are to explain a modern development of the EU, analyse key points in particular areas of integration and practise argumentation skills.   |   |      |   |
| G66C0101  | Reflections of Technical Innovations in Culture       | ZK   | 3 |
| The subject is intended for students of the Master's study program Project Management of Innovations. The teaching is aimed at gaining a wide range of knowledge from the field of innovation processes, for the understanding and internalization of which a deep understanding of the connections between science and culture is an absolutely key.   |   |      |   |
| G77C0001  | Technology Assessment                                 | ZK   | 3 |
| G77C0002  | Sustainable Development and the Construction Industry | ZK   | 3 |
| G77C0003  | Transportation Engineering Projects                   | ZK   | 3 |
| G77C0004  | Smart Cities Technologies                             | ZK   | 3 |
| The subject Technology for Smart Cities introduces students to the interdisciplinary problematics of smart cities and places it in the context of the technological, social and economic development of society.  |   |      |   |
| G77C0005  | Selected Innovative Techniques and Technologies 1     | ZK   | 6 |
| G77C0006  | Selected Innovative Techniques and Technologies 2     | ZK   | 3 |

|          |   |      |   |
|----------|---|------|---|
| G77C0007 | Communication Systems and Networks<br>Telecommunications: What does it all mean? We look into history and the future. We'll try it wired and wireless, even at the speed of light (or almost...), on land, underwater, and in space. For example: How is electric current created? Painter Morse. Alexander, ring the bell! Telecommunications from the plane. Do you know a Twisted Pair? How a landline works. How the telephone network becomes the Internet. Light and dark. Transmission of information by light. Why are networks "mobile"? 1G, 2G, 3G, 4G, 5G, etc. The more G, the better. How here and how elsewhere? Satellite systems (J. Kepler + A. C. Clarke = E. Musk). What do Saturn and Earth have in common? Does navigation know about me? We will walk around akovice. How television (including Internet) works. A football match and a drastic Clash of the Titans. WiFi not working? What now Why the Internet is not for people but for things. The biggest mistakes in the history of telco business. The subject scrupulously avoids formulas and mathematical relationships (however, it does not always succeed...) - the keywords are principles and clarity. | ZK   | 3 |
| G77C0008 | Robotics  | Z,ZK | 6 |
| G77C0009 | Information Security Management and Implementation  | ZK   | 3 |
| G77C0010 | Introduction to Biomedical Engineering  | Z    | 3 |
| G77C2011 | Industry 4.0<br>I. Annotation The subject "Industry 4.0" deals with the topic of the fourth industrial revolution, explains concepts, terms and trends in this area. It deals with the history of industrial revolutions, current trends as well as individual technological breakthroughs that are typical for Industry 4.0. It analyzes the effects of "Industry 4.0" on the economy and society as a whole. Last but not least, it deals with the role of the state in the creation of economic and industrial policy, the need for which is generated by "Industry 4.0".  | Z,ZK | 3 |
| G77E0011 | Environmental Technology  | ZK   | 3 |
| G77E2011 | Industry 4.0<br>1. Visions of Industry 4.0 2. Virtualization and System Integration of Manufacturing Facilities 3. Knowledge representation of Manufacturing Systems by Multi-Agent and Autonomous Systems 4. Ontological Knowledge 5. Analytical Methods and Big-Data Systems 6. Implementation Architectures for Industry 4.0 Systems 7. Modelling Methods 8. Simulations for Design and Rump-up of Industry 4.0 Systems 9. Modular SCADA Systems 10. Virtual and Augmented Reality Systems 11. Typical Projects of Industry 4.0 12. Typical of Industry 4.0 13. Testbeds and Their Implementation 14. Impacts of Industry 4.0  | ZK   | 3 |
| G88E0201 | Selected Chapters of Innovation Management A-1  | ZK   | 6 |
| G88E0202 | Selected Chapters of Innovation Management A-2  | ZK   | 6 |
| G88E0203 | Selected Chapters of Innovation Management B-1<br>Students are able to understand and analyze the distribution of resources as an important factor of European integration. They are able to examine the cohesion impact of the main European Union policies. Areas covered include the single market, external trade policy, competition and enterprise policies, research and technological development, social and employment, structural policies. The module emphasizes the relationships that exist between European Union policy interventions and their final impact in different countries, and competitiveness and cohesion.  | ZK   | 3 |
| G88E0204 | Selected Chapters of Innovation Management B-2  | ZK   | 3 |
| G88E0205 | Foreign Experience  | Z    | 6 |

For updated information see <http://bilakniha.cvut.cz/en/FF.html>

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