

Doctoral School of Regional Policy and Economics
at the
University of Pécs

TRAINING PLAN



2025

Training Plan of the Doctoral School of Regional Policy and Economics

The doctoral school's operational regulations contain detailed information on the requirements to be met by doctoral school students and the rules for earning credits. This document contains the following appendices

- credit acquisition system,
- course structure, and
- current syllabus of courses.

Credit requirements for organized training

<i>Period (per semester) (with classroom visits and participation in exams)</i>	Training	Research	Education	Publication	Total
	<i>(with research grant, with research team participation)</i>		<i>(with teaching, with teaching support)</i>	<i>(with publication writing, conference participation)</i>	
number of credits per semester					
<i>Training and research (semesters 1 – 4)</i>	24	6 -	3 -	3*-	min. 30
<i>Research and dissertation (semesters 5 – 8)</i>	6	6 -	3 -	6-	min 21
Total	96-120	48-	12-36	60-	240-

In bold: mandatory part

*minimum 3 publication credits in any of the semesters 1 – 4

Trainings:

all subjects 20 hours per semester = 6 credits

in semesters 5 – 8 a total of 6 Scholarly portraits, compulsory, non-credit

Participation in 5 events per semester is required, no credit awarded.

Course structure of the International PhD in Regional Policy and Economics

Training courses (all courses 12 hours/6 credits)			
1. semester	2. semester	3. semester (choose 3-5)	4. semester (choose 3-5)
Advanced Economics Sebestyén Tamás	Operations management Vörös József	Real option theory and practice Csapi Vivien	Advanced corporate finance Takács András
Applied statistics Kehl Dániel/Tiszberger Mónika	Leadership Jim Strode	Industrial organization Farkas Richárd	Environmental economics Erdős Katalin
Organizational theory Vítai Zsuzsanna/John Schermerhorn	Development economics Gál Zoltán	Innovation marketing and management Lányi Betarix	Marketing theory Szűcs Krisztián
Behavioural economics Kovács Kármén	Econometrics Kőrösi Gábor	Human resource management Ásványi Zsófia	Economic development aspects of tourism Csapó János
		Regional economics Sebestyén Tamás/Farkas Richárd	Information technology management Kruzslicz Ferenc
		Entrepreneurship Szerb László	Innovation and network analysis Sebestyén Tamás/Lengyel Balázs
Criterion requirement			
Research support I. Research methodology Balogh Gábor	Research support II. How to publish? Geoffrey Wood	Research support III. Systematic literature survey Kovács Kármén/ Hornyák Miklós	Research support IV. Research practice Szerb László

Syllabusses for English language courses

1. **Advanced corporate finance** Takács András
2. **Advanced Economics** Sebestyén Tamás
3. **Applied statistics** Kehl Dániel/Tiszberger Mónika
4. **Behavioural economics** Kovács Kármén
5. **Development economics** Gál Zoltán
6. **Econometrics** Kőrösi Gábor
7. **Economic development aspects of tourism** Csapó János
8. **Entrepreneurship** Szerb László
9. **Environmental economics** Erdős Katalin
10. **Human resource management** Ásványi Zsófia
11. **Industrial organization** Farkas Richárd
12. **Information technology management** Kruzslicz Ferenc
13. **Innovation and network analysis** Sebestyén Tamás/Lengyel Balázs
14. **Innovation marketing and management** Lányi Betarix
15. **Leadership** Jim Strobe
16. **Marketing theory** Szűcs Krisztián
17. **Operations management** Vörös József
18. **Organizational theory** Vitai Zsuzsanna/John Schermerhorn
19. **Real option theory and practice** Csapi Vivien
20. **Regional economics** Sebestyén Tamás/Farkas Richárd
21. **Research support I. Research methodology** Balogh Gábor
22. **Research support II. How to publish?** Geoffrey Wood
23. **Research support III. Systematic literature survey** Kovács Kármén/ Hornyák Miklós
24. **Research support IV. Research practice** Szerb László

COURSE DESCRIPTION: ADVANCED CORPORATE FINANCE
PREPARED BY: PROF. DR. TAKÁCS ANDRÁS

Course title: Advanced Corporate Finance Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: optional	
Proportion of theoretical/practical content ("educational character"): 40% – 60%	
Type and number of classes: lecture, 12 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity, interactivity, and collaboration	
Assessment method: electronic examination Specific characteristics of assessment: -	
Placement in the curriculum: 4th semester	
Prerequisites: -	
Course description and objectives	
The aim of this module is to give students a deep insight (within the wide area of corporate finance) into the field of company valuation, its international literature, practical standards and methodology, and through this, to help them acquire advanced research skills in this field. A significant attention is given to reading, synthesizing and understanding relevant research articles, and summarizing/presenting their results, which will be useful for the students in their later research activities, in their chosen research area. Topics and content 1. Categorization of company valuation methods in the literature and in the International Valuation Standards. 2. The income-based approach. Comparison of the two basic DCF models (Free Cash Flow, Equity Cash Flow). 3. Cost (net asset) based and relative valuation techniques and their role in the valuation process. Modern company valuation approaches and methods (value added based methods, real options, reverse DCF model). 4. Application of valuation methods in empirical research projects.	

Required and recommended readings

Required literature:

Damodaran, A. (2012): Investment valuation, 3rd edition, John Wiley & Sons

Takács, A. (2025): Basics of Business Valuation (Chapter 5). In: Csapi, V. (ed.): Financial and Sustainability Reporting, Analysis and Valuation, University of Pécs Faculty of Business and Economics

Recommended literature:

Koller, T., Goedhardt, M, Wessels, D. (2005): Valuation – Measuring and managing the value of companies, 4th edition, John Wiley & Sons

Fernandez, P. (2002): Company valuation methods. The most common errors in valuation, Research Paper No. 449, IESE University of Navarra

Takács, A., Ulbert, J., Fodor, A. Have investors learned from the crisis? An analysis of post-crisis pricing errors and market corrections in US stock markets based on the reverse DCF model, Applied Economics 52 (20): 2208-2218.

International Valuation Standards, <https://www.ivsc.org/standards/international-valuation-standards>

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
The student is familiar with the theories and methodologies of modern corporate finance related to business valuation, as well as the relevant international and national academic literature.	The student can independently select appropriate methods and construct models necessary for estimating the market value of any business entity.	The student demonstrates empathy and tolerance, particularly with regard to others' lack of competence.	The student's work is characterised by a commitment to quality, equality of roles, and partnership.
The student is able to accurately interpret values derived from valuation models.	The student is able to propose recommendations for the practical application of the model.	The student shows an innovative mindset and a readiness for continuous professional development.	The student accepts professional and ethical responsibility for their own work.
	The student is capable of selecting suitable information technology tools for valuation tasks and applying them with confidence.		The student performs their tasks with dedication and in accordance with established professional standards and norms.

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
The student is familiar with the accepted approaches to business valuation (asset-based, income-based, and market-based).	The student can comprehend international and domestic empirical studies on valuation, formulate critical opinions, and raise relevant questions.	Their work is characterised by accuracy, responsibility, and professional rigour.	The student communicates independently and responsibly about professional issues within their field of research.
The student understands the relationship between relevant academic literature and the International Valuation Standards.	The student is capable of supervising and providing methodological guidance for dissertations and undergraduate research projects in the field of business valuation.	The student is open to receiving feedback on their results and is able to process and integrate constructive criticism.	Together with their professional partners, the student develops shared positions, defines the purpose and mode of scientific communication, and strives for cooperation.
The student recognises the significance of methodological choices and the applicability criteria of different valuation methods.	The student can assess the significance of subjective components necessarily embedded in valuation models, and demonstrate their quantitative effects through sensitivity analysis and scenario analysis.		In conflict situations, the student takes responsibility for their own work and makes every effort to correct potential mistakes in a professional manner.
			The student assumes responsibility for their results and their interpretation, while remaining aware of and communicating the limitations of the models.

COURSE DESCRIPTION: ADVANCED ECONOMICS
PREPARED BY: PROF. DR. TAMÁS SEBESTYÉN, PROFESSOR

Course title: Advanced Economics Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: compulsory	
Proportion of theoretical/practical content (“educational character”): 50% – 50%	
Type and number of classes: lecture, 20 hours Language of instruction: English Specific characteristics of instruction: classes are based lectures about theoretical principles and software-based implementation of the theoretical concepts and models, requiring active contribution and cooperation from students in class.	
Assessment method: written individual assignments Specific characteristics of assessment: Five individual assignments related to the five topics of the semester will be set, requiring students to implement a model in software and draw appropriate conclusions based on this.	
Placement in the curriculum: 1st semester	
Prerequisites: none	
Course description and objectives	
The aim of the course is to provide students with useful capabilities in applying advanced economic tools and models. Keeping this goal in mind, the course develops on general equilibrium, a basic principle in mainstream economic modelling then it introduces some influential extensions to this approach (dynamic stochastic general equilibrium, new Keynesian macroeconomics and its empirical background, modelling market failures like monopolistic competition, asymmetric information and networks). Demonstrating applications of these modelling toolkit is a pivotal element of the course. According to this, the course dynamically mixes theoretical and practical empirical parts, where the latter places attention on implementing the respective models/tools in an appropriate software environment. Topics and content 1. Empirical macroeconomics: VAR and SVAR models 2. Dynamic general equilibrium: the New Keynesian approach 3. Estimation of DSGE models	
Required and recommended readings	
Required literature: Koop, G. (2003): Bayesian Econometrics. Wiley, England.	

Kirchgassner, G., Wolters, J., Hassler, U. (2013): Introduction to Modern Time Series Analysis. Springer, Berlin, Heidelberg.

Galí, J.: Monetary Policy, Inflation, and the Business Cycle. An Introduction to the New Keynesian Framework and Its Applications - Second Edition, Princeton University Press, 2015.

Sebestyén, T.: The basics of dynamic macroeconomic modelling. A practical introduction into the world of DSGE models. Learning materials available online. 2016.

Recommended literature:

Heer, B., Maussner, A. (2009): Dynamic General Equilibrium Modeling : Computational Methods and Applications. Springer-Verlag Berlin and Heidelberg GmbH & Co. KG

Cardenete, M.A., Guerra, A.I., Sancho, F. (2012): Applied General Equilibrium. Springer Texts in Business and Economics. Springer, Berlin, Heidelberg.

Brakman, S., Heijdra, B.J. (eds.): The Monopolistic Competition in Retrospect. Cambridge University press, Cambridge, UK, 2004.

Canova, F. (2007): Methods for Applied Macroeconomic Research. Princeton University Press, Boston, MA.

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students understand the difficulties involved in formally describing how the economy works, is able to use studies published in peer-reviewed journals as best practice .	Students are able to formally express economic relationships and processes.	Students are empathetic and tolerant (towards others' lack of competence) in their work	Students' work is characterized by a focus on quality, equal roles, and a commitment to partnership.
Students understand the relationship between general equilibrium models and empirical macroeconomic models, as well as the limitations of these models	Students are able to define, collect, and format data necessary for the empirical fitting of formal economic models.	Students possess an innovative mindset, ready for continuous professional development.	Students take professional and moral responsibility for their own work.

	Students are able to interpret the estimation/simulation results of economic models.	Students perform their work with a sense of vocation, in accordance with professional standards	
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Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students know the basic principles and possible solutions of multisectoral and dynamic general equilibrium models.	Students are able to use the Matlab software package.	Students' work is characterized by accuracy, responsibility, and professional standards.	Students communicate independently and responsibly on professional issues related to their field of research
Students know the role of market failures, especially monopolistic effects, in the general equilibrium of the economy.	Students are able to understand the operating principles, strengths, and limitations of general equilibrium models.	Students are open to receiving feedback on their results and are able to process and incorporate constructive criticism.	Students develop their position and the purpose and method of their scientific communication in collaboration with their professional partners, and strives for cooperation
Students know the basic empirical methods for exploring the relationships between macroeconomic phenomena.	Students are able to empirically fit economic models.	In conflict situations, students take responsibility for their own work and strive to correct any mistakes in a professional manner.	Students take responsibility for the results of their modeling and their interpretation, but is aware of and communicates the limitations of modeling
	Students are able to analyze the effects of various economic policy interventions or shocks using equilibrium models.		Students strive to comply with ethical modeling guidelines and promotes these principles to the extent possible

COURSE DESCRIPTION: APPLIED STATISTICS
PREPARED BY: DR. KEHL DÁNIEL, ASSOCIATE PROFESSOR, GALAMBOSNÉ
DR. TISZBERGER MÓNICA, ASSOCIATE PROFESSOR

Course title: Applied Statistics Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: compulsory	
Proportion of theoretical/practical content (“educational character”): 40% – 60%	
Type and number of classes: lecture, 20 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity, interactivity, and collaboration	
Assessment method: written examination Specific characteristics of assessment: Written examination (3 hours) consisting of two parts: Compiling a dataset according to given requirements. Solving a regression task using a provided dataset and presenting the results in line with the learned standards.	
Placement in the curriculum: 1. semester	
Prerequisites:	
Course description and objectives	
The aim of the course is to familiarize students with the practical process of compiling datasets required for empirical research, including its common pitfalls, and to enable them to present datasets and research results in line with scientific publication standards. During the course, we will briefly review available statistical software, with a primary focus on MS Excel, SPSS. The course covers the essential steps of dataset compilation, data cleaning, coding, and data transformation. Students will also learn the key requirements and appropriate formulations for presenting empirical datasets in a scientific context. In relation to regression modeling, the course reviews the core principles of the method through practical examples and discusses various ways of presenting the results—textually, in tables, and in figures—in accordance with academic publication standards. Finally, we summarize the principles of creating illustrative figures, the “rules” of chart selection, the necessary components of tables and figures, and typical pitfalls and mistakes. Topics and content 1. Data sources and dataset construction: data gathering, data formats, measurement scales, coding, handling missing data, introduction to descriptive statistics using MS Excel and IBM SPSS. (Kehl Dániel) 2. Data visualization: principles, types of charts, and best practices for scientific presentation. (Kehl Dániel) 3. Fundamentals of model building: key considerations and introduction to the simple linear regression model. (Galambosné Tiszberger Mónika)	

4. Multiple linear regression: specification, estimation, and interpretation. (Galambosné Tiszberger Mónika)
5. Assumptions and diagnostics of multiple regression models: testing assumptions, identifying violations, and drawing valid conclusions. (Galambosné Tiszberger Mónika)
6. Reporting regression results in academic publications: textual interpretation, tabular and graphical presentation in line with publication standards. (Galambosné Tiszberger Mónika)

Required and recommended readings

Required literature:

Recap: Berenson, M.L. – Levine D.M. – Szabat K.A. (2015): Basic Business Statistics: Concepts and Applications, Thirteenth Edition, Pearson.

Field, A. (2018): Discovering Statistics Using IBM SPSS Statistics. 5th edition. Sage (earlier editions are also suitable)

Recommended literature:

Békés, G. – Kézdi, G. (2021): Data Analysis for Business, Economics and Policy. Cambridge University Press

Hair, J.F. Jr. – Black, W.C. – Babin, B.J. – Anderson, R.E.: Multivariate Data Analysis, Seventh Edition, Pearson

Franzblau, L. E. – Chung, K. C. (2012): Graphs, Tables, and Figures in Scientific Publications: The Good, the Bad, and How Not to Be the Latter. The Journal of Hand Surgery Volume 37 Issue 3 p. 591-596 (<https://www.sciencedirect.com/science/article/pii/S0363502311016534>)

Kelly, D. – Jasperse, J. – Westbrooke, I.: Designing science graphs for data analysis and presentation Department of Conservation Technical Series 32 p. 68 (<https://www.doc.govt.nz/Documents/science-and-technical/docts32entire.pdf>)

King, L. (2018): Preparing Better Graphs. Journal of Public Health and Emergency (<http://jphe.amegroups.com/article/view/4288/5126>)

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Understands the methodology of compiling and processing datasets required for scientific research, as well as the publication standards for presenting results.	Independently compile and prepare datasets for analysis.	Develops openness to modern data management and data visualization techniques.	Takes responsibility for compiling and processing his/her own research dataset.

Learns how to calculate, present, and publish the results of regression models.	Identify problems requiring regression modelling.	Strives to comply with the standards of scientific communication.	Assumes professional and ethical responsibility for his/her own work.
Knows how to select the appropriate type of figure for presenting statistical results.	Choose suitable visualization techniques for presenting statistical findings.		

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Defines the measurement level and type of variables.	Applies statistical software and interprets analysis results.	Demonstrates openness to transparent and accurate data reporting.	Solves complex data processing tasks independently.
Understands the requirements for presenting data in scientific publications.	Independently compiles and cleans datasets.	Acknowledges the importance of identifying and correcting errors in empirical research.	Takes responsibility for the professional and ethical validity of research results.
Familiar with the theoretical background of regression modelling and its practical applications.	Performs regression analyses and presents the results using appropriate tables and figures.		

COURSE DESCRIPTION: BEHAVIOURAL ECONOMICS
PREPARED BY: DR. HABIL. KOVÁCS KÁRMEN, ASSOCIATE PROFESSOR

Course title: Behavioural Economics Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: compulsory	
Proportion of theoretical/practical content ("educational character"): 60% – 40%	
Type and number of classes: lecture, 12 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity, interactivity, and collaboration	
Assessment method: presentation, semester paper Specific characteristics of assessment: Students must prepare a presentation based on an academic journal article in a behavioural economics topic. Students must prepare an individual assignment (semester paper) by linking behavioural economics and their doctoral research topic or on the subject of the presented article. The paper must include a literature review and an analysis. (Submission to Moodle until deadline)	
Placement in the curriculum: 1st semester	
Prerequisites: -	
Course description and objectives	
Behavioural economics investigates the reasons, manifestations and consequences of individual decisions regarding various economic phenomena and contexts. It strives to give a realistic description of individual choices and behaviour by applying psychological results. It focuses on the anomalies and consequences of individual decision-making. Behavioural economics seeks to develop and apply realistic theories and models by exploring individual choices. Its research findings are beneficial and relevant for firms, financial institutions and the decision-makers of economic policy. The course aims to familiarize the perspective of behavioural economics, introduce various perspectives and tools for the investigation and analysis of the realistic decisions, highlight the relevance and consequences of decision biases in economic contexts, and discuss how the description of realistic decisions can be applied for developing and applying theories and models, and in practice. Topics and content 1. Behavioural economics as a scientific perspective and its research areas. 2. Decision errors and biases, their types, influencing factors, and consequences. 3. Time preferences and the complexity of intertemporal decisions. 4. Relative consumption and its relevance in utility. 5. The impact of decision biases and mental accounting on personal finances.	

Required and recommended readings

Required literature:

Angner, E. (2012). *A course in behavioral economics*. New York: Palgrave Macmillan.

Thaler, R. H. (2016). *Misbehaving: the making of behavioral economics*. W. W. Norton & Co.

Recommended literature:

Angner, E. (2019). We're all behavioral economists now. *Journal of Economic Methodology*, Vol. 26. No. 3. 195–207.

Ariely, D. (2008). *Predictably irrational*. New York: Harper Collins.

DellaVigna, S. (2009). Psychology and economics: Evidence from the field. *Journal of Economic Literature*, Vol. 47. No. 2. 315–372.

Frederick, S.–Loewenstein, G.–O'Donoghue, T. (2002). Time discounting and time preference: A critical review. *Journal of Economic Literature*, Vol. 40. No. 2. 351–401.

Kahneman, D. (2011). *Thinking, fast and slow*. London: Allen Lane.

Kovács, K. (2015). The effects and consequences of simultaneously arising different network externalities on the demand for status goods. *Metroeconomica: International Review of Economics*, Vol. 66. No. 3. 375–396.

Kovács, K. (2021). Consumer expenditure when positional concerns matter. *International Journal of Social Economics*, Vol. 48. No. 10. 1408–1422.

Kovács, K. (2024). The impact of financial and behavioural sunk costs on consumers' choices. *Journal of Consumer Marketing*, Vol. 41. No. 2. 213–225.

Kőszegi, B.–Rabin, M. (2006). A model of reference-dependent preferences. *Quarterly Journal of Economics*, Vol. 121. No. 4. 1133–1165.

Kőszegi, B.–Rabin, M. (2009). Reference-dependent consumption plans. *American Economic Review*, Vol. 99. No. 3. 909–936.

Loewenstein, G.–O'Donoghue, T.–Rabin, M. (2003). Projection bias in the prediction of future utility. *Quarterly Journal of Economics*, Vol. 118. No. 4. 1209–1248.

Thaler, R. H. (2016). Behavioral economics: past, present, and future. *American Economic Review*, Vol. 106. No. 7. 1577–1600.

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students will understand the conceptual framework, key theories, and empirical findings of behavioural economics.	They will be able to analyse and interpret economic decision-making situations through the lens of behavioural economics.	They will demonstrate openness to interdisciplinary approaches in the study of economic problems, phenomena, and decisions.	They will apply behavioural economics insights responsibly in policy-making, corporate strategy, and financial decision-making contexts.

Students will identify the types of decision-making anomalies, their underlying causes, and economic implications.	They will be able to propose methods for incorporating decision errors and biases into both theoretical and practical frameworks.	They will show sensitivity to the societal and economic consequences of individual decision-making.	They will be capable of articulating and defending behavioural economics perspectives in academic and professional settings.
Students will comprehend the importance of uncovering, describing, and integrating real-world decisions into economic models.	They will critically evaluate classical models of rational choice and recognise their limitations.		

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students will understand the key concepts, theoretical foundations, and methodological tools of behavioural economics.	They will be able to critically interpret the limitations of rational decision-making.	They will show interest in the psychological and sociological background of individual economic decisions.	They will responsibly apply behavioural theories in economic analyses.
Students will identify the cognitive and emotional factors that lead to decision biases.	They will be able to apply behavioural economics models in decision-making contexts.	They will be open to interdisciplinary approaches.	They will responsibly represent the behavioural economics perspective in professional forums.
Students will understand the economic consequences of decision biases.	They will be able to compare different decision-making situations from a behavioural perspective.	They will be committed to realistic economic modelling.	They will act responsibly when publishing research findings.
Students will understand the differences between behavioural and classical economics.	They will be able to design empirical research on behavioural economics questions.	They will strive for scientific objectivity and ethical research conduct.	

COURSE DESCRIPTION: DEVELOPMENT ECONOMICS

PREPARED BY: PROF. DR. GÁL, Zoltán, PROFESSOR

Course title: Development Economics Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: compulsory	
Proportion of theoretical/practical content (“educational character”): 60% – 40%	
Type and number of classes: lecture, 12 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity, interactivity, and collaboration; The theoretical knowledge base of the course will be processed partly by brief introductions in form of lectures, and partly by student activity. Furthermore, this theoretical knowledge will be applied by students to solve case studies individually.	
Assessment method: written assignment & presentation <i>Formative assessment elements:</i> During the sessions, students will receive feedback on their progress and knowledge through online quizzes, and individual and group tasks. <i>Formative assessment</i> is based on a written assignment and oral presentation. Students will also write a course paper (cca. 10 pages), a constructive critique of the literature or chosen topic covered in class or in the readings. In addition, mastering the reading assignments and the presentation, short reaction papers and class activity and class discourses are also included in the evaluation.	
Placement in the curriculum: 2nd semester	
Prerequisites: none	
Course description and objectives	
This course addresses macro and micro development models and policies mostly related to the Global South and also to the (semi-)peripheries of the Global North. Starting with an overview of economic development and growth theories, and various explanations of slow growth and development gaps. This is followed by a discussion of the geography of uneven growth & development then the econometrics of growth. Questions of convergence and divergence will be discussed in the context of dependent economic development. The policy implications section reviews relevant catching-up policies and the role of institutions in economic development. The social implications look at poverty and social inequality and the role of education. Finally, we look at the financial aspects of development and the global impact of financial crises and indebtedness, focusing on the role of external and internal/local financing instruments in development. Foreign aid and microfinance 'revolution' is then discussed. The course aims to introduce the economic aspects of the development process predominantly in low income countries. Its focus	

is not only on methods of promoting economic development, economic growth and structural change but also on improving the potential for the mass of the population, for example, through health, education and workplace conditions.

Topics and content

1. Introducing Economic Development: A Global Perspective
2. Economic Growth Theories; Metrics of Economic Growth and Income; Other Development Indicators
 - a. *Case Studies*: FDI Dependent Economic Growth in CEE;
3. Comparative Economic Development: Development gaps, Economic Dependencies; Economic Convergence and Divergence
4. The role of the institutions in economic development and its macro-strategies; *Case studies* on Latin America and Developmental states of East Asia);
5. Poverty, Inequality, and Development
6. Development Finance: Balance of Payments, Foreign vs. Local Finance, Debt, Financial Crises, and Stabilization Policies; *Case studies*: Foreign aid and Microcredit systems

Required and recommended readings

Essential

- *Todaro, Michael P., Smith, Stephen C.. Economic Development*. Ed. 12th Harlow: Pearson, 2015. Text.
- *Roland, Gerard : Development Economics (The Pearson Series in Economics)* Publisher: Routledge; This edition first published: 2013-08

Recommended

- *Acemoglu, Daron, and James A Robinson*. 2012. *Why Nations Fail: The Origins of Power, Prosperity and Poverty* (1st). 1st ed. New York: Crown, 529.
- Amartya Sen, *Development as Freedom*, Oxford University Press, 2001/Anchor; Reprint edition (August 15, 2000)
- Jeffrey Sachs , *The End of Poverty: Economic Possibilities for Our Time*
- Muhammad Yunus, *Banker To The Poor: Micro-Lending and the Battle Against World Poverty*

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students will understand the main concepts and theories of economic development and growth, including convergence and divergence debates	Students will be able to evaluate development indicators, compare policy tools, and apply theoretical concepts to practical cases.	Their work will be characterized by openness to diverse perspectives, respect for different development paths, and sensitivity to inequality issues.	Students will work independently and responsibly in analyzing development challenges, showing commitment to ethical and sustainable solutions.

They will be familiar with the geography of uneven development, dependency theories, and the role of institutions in development.	They will be able to analyze case studies, policy reports and statistics (e.g. CEE, Latin America, East Asia) and propose policy recommendations.	They will demonstrate empathy toward marginalized communities and readiness to integrate social and human development aspects.	They will take professional responsibility in assessing policy trade-offs and communicating their analyses clearly in academic and policy contexts.
They will understand financial aspects of development, including debt, crises, and the role of aid, FDI, and microfinance.	They will be able to use comparative and critical approaches to assess external vs. local financing options.	They will be open to constructive criticism, and committed to continuous learning and innovation in development policy debates.	They will comply with ethical research standards, promote sustainable development principles, and take responsibility for their own professional growth.

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
They will be familiar with key growth and development models, and the debates on catching-up and structural transformation.	They will be able to critically evaluate and apply development theories to empirical problems.	Their academic work will be marked by accuracy, responsibility, and an ethical orientation toward sustainable development.	They will communicate responsibly and independently about development policy challenges.
They will know the main international debates on poverty, inequality, and sustainability, and the role of global and local institutions.	They will be able to analyze and interpret economic and social data related to development gaps.	They will show openness to global diversity and a willingness to integrate social justice considerations into their work.	They will take responsibility in group and conflict situations and correct possible mistakes in a professional manner.
They will understand the interaction between external financing, aid, and local resources in shaping development paths.	They will be able to propose innovative and evidence-based recommendations for development strategies.	They will strive to promote inclusiveness, equality, and sustainability in their professional environment.	Their work will be characterized by quality orientation, partnership, and a commitment to long-term development goals.

COURSE DESCRIPTION: ECONOMETRICS
PREPARED BY: PROF. DR. KŐRÖSI GÁBOR, EMERITUS PROFESSOR

Course title: Econometrics Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: compulsory	
Proportion of theoretical/practical content (“educational character”): 40% – 60%	
Type and number of classes: lecture, 20 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity, interactivity, and collaboration	
Assessment method: written examination Specific characteristics of assessment: during the examination students analyze a pre-assigned dataset using single- and multiple-equation econometric models, conduct specification analysis, interpret the obtained regression coefficients, and prepare out-of-sample forecasts	
Placement in the curriculum: 2nd semester	
Prerequisites: successful completion of the Applied Statistics course	
Course description and objectives	
One of the most widely applied methodologies for validating hypotheses in economics is empirical, probability-based statistical and econometric modeling. The objective of the course is to introduce and practice the specification, parameter estimation, and specification analysis of econometric models that are regularly used in economic and social analysis. The course also familiarizes students with econometric software packages and applications (Gretl, EViews, R, etc.), which are necessary for large data-intensive modeling tasks. Special emphasis is placed on models with limited dependent variables and on models based on panel data. Topics and content 1. The classical linear regression model. Econometric tests and test design principles (LR, LM, Wald tests). 2. System of regression equations, simultaneous equation models. Instrumental variables estimation. Identification of simultaneous models and the problem of endogeneity. 3. Univariate and multivariate stochastic time series analysis (Granger causality, VAR, ECM, VECM). Serial correlation. Models with lagged variables. 4. Microeconometrics, limited dependent variables into models (dummy-variable, probit, logit, Tobit, Heckit models). Models for discrete choice. Truncation and censoring. 5. Analysis of three-dimensional data (panel data). Examination of regional and/or time effects, identification of time-varying causality.	

Required and recommended readings
Required literature: Greene (2018): Econometric Analysis. 8th Ed. Pearson, Prentice Hall. Kőrösi-Mátyás-Székely (1991): Practical Econometrics. KJK, Budapest. Recommended literature: Guajarati (2021): Essentials of Econometrics. McGrawHill. Kirchgässner-Wolters (2007): Introduction to Modern Times Series Analysis. Springer. Selected articles available on Moodle

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students will understand the difficulties of constructing complex econometric models and will be able to use peer-reviewed journal articles as best practice.	Students will be able to independently collect datasets for single- and multiple-equation econometric models, and to replicate specifications presented in the literature.	Their work will be characterized by empathy and tolerance (especially regarding others' lack of competence).	The students' work is characterized by quality orientation, equal roles, and a commitment to partnership.
They will understand the principles of econometric testing.	They will be able to select appropriate computational tools to support their modeling tasks.	Students will become innovative and ready for continuous professional development.	They will demonstrate professional dedication and act in accordance with academic standards and norms.

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
They will be familiar with econometric models designed for prediction across different levels of measurement.	They will be able to use GRET, EVIEWS, and R software packages/platforms.	Their professional work will be marked by accuracy, responsibility, and academic rigor.	They will communicate responsibly and independently about professional issues within their field of research

They will be familiar with the philosophical background of causality models, including different approaches to causality (Humean, counterfactual, common cause).	They will be able to follow the process of constructing complex (multiple-equation) econometric models.	They will be open to receiving feedback, and able to process and integrate constructive criticism.	They will take responsibility in conflict situations and make every effort to correct possible mistakes professionally.
	They will be capable of adapting existing models from the literature to their own research topics.	They will strive to comply with ethical modeling principles and promote them to the extent possible.	Students strive to comply with ethical modeling guidelines and promote these principles to the best of their ability their work is characterized by a focus on quality, equal roles, and partnership

COURSE DESCRIPTION: ENTREPRENEURSHIP
PREPARED BY: PROF. DR. SZERB LÁSZLÓ, PROFESSOR

Course title: Entrepreneurship Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: compulsory	
Proportion of theoretical/practical content (“educational character”): 80% – 20%	
Type and number of classes: lecture, 12 hours Language of instruction: English Specific characteristics of instruction: regarding the limited time and the introductory nature of the course in the PhD programme, the basic method is lecturing, however, students are encouraged to ask questions. The Global Entrepreneurship Index methodology is taught to students.	
Assessment method: writing a country report Using the Digital Entrepreneurship Ecosystem Index (DEE) methodology and data evaluate a selected country entrepreneurial profile, strengths and weaknesses, individual and institutional profiles.	
Placement in the curriculum: 2nd semester	
Prerequisites: non	
Course description and objectives	
Aims of the course: the course is to provide an introduction to advanced entrepreneurship studies and interrelated subjects including theories, practice and policy issues. The focus is on entrepreneurship ecosystems and its effect on economic development.	
Topics and content 1. Small businesses and entrepreneurship: definitions and distinctions. Types of entrepreneurship. Individual, process and context views 2. Individual models, Shapero and Ajzen models. Entrepreneurial traits, intentions and motivations. Different models of individual entrepreneurship and entrepreneurial attitudes. Entrepreneurial processes, organizational/stages models 3. Entrepreneurial processes, effectuation/bricolage, entrepreneurial orientation, and opportunity recognition models 4. Entrepreneurship contexts, business, social, spatial and institutional contexts. The external enablers model. Entrepreneurship ecosystems, Isenberg and Stam models. The Global Entrepreneurship Index approach. 5. Entrepreneurship measures: Attitude, Output, context, and ecosystem measures 6. Digital entrepreneurship and the Digital Entrepreneurship Ecosystem (DEE) Index. The calculation of the DEE scores, step by step exercise. Student exercise DEE tool. Bring laptop with mouse (upload to your computer the following file: DEE_2017_2022_tool_Student excel file)	

Required and recommended readings

Required literature:

Szerb, L., Z. J. Acs, E. Lafuente, S. Apostol, J. Szakos(2023) The Digital Entrepreneurship Ecosystem Index: Concept and measurement 2025, Working paper available on Moodle

Recommended literature:

Acs, Z. J., Song, A. K., Szerb, L., Audretsch, D. B., & Komlosi, E. (2021). The evolution of the global digital platform economy: 1971–2021. *Small Business Economics*, 57(4), 1629–1659.

Ács, Z. J., Autio, E., & Szerb, L. (2014). National systems of entrepreneurship: Measurement issues and policy implications. *Research Policy*, 43(3), 476–494.

Acs, Z. J., Szerb, L., Song, A., Komlosi, E., & Lafuente, E. (2021). The Digital Platform Economy Index 2020. *Available at the Global Entrepreneurship and Development Institute*.

Selected materials on Moodle

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Understanding relevant advanced theories and models of entrepreneurship, including ecosystems and digital entrepreneurship.	Ability to critically analyze entrepreneurial ecosystems using data-based indices.	Openness to multi-disciplinary perspectives on entrepreneurship research.	Capability to independently prepare a country report applying index methodologies.
Familiarity with measurement frameworks (e.g., GEI, DEE Index) and their policy relevance.	Capacity to evaluate strengths and weaknesses of national or regional entrepreneurship profiles.	Critical awareness of entrepreneurship's role in economic and social development.	Responsibility for formulating evidence-based policy implications from analytical results.

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students will be able to explain and compare key entrepreneurship theories, including individual, process, and ecosystem models.	Students will be able to use data-driven tools (DEE Index) to evaluate entrepreneurial performance in different contexts.	Students will appreciate the importance of critical thinking in applying theoretical models to practice.	Students will be able to independently manage the process of data collection, analysis, and interpretation in their country report.
Students will be able to describe and apply measurement tools such as the Global Entrepreneurship Index and the Digital Entrepreneurship Ecosystem Index.	Students will be able to interpret and synthesize academic and policy-oriented literature on entrepreneurship.	Students will demonstrate openness toward interdisciplinary and international perspectives on entrepreneurship.	Students will take responsibility for drawing evidence-based conclusions and policy implications.
Students will understand the links between entrepreneurship ecosystems and economic development.	Students will be able to prepare structured, analytical reports on entrepreneurship ecosystems.		Students will demonstrate self-directed learning in expanding their knowledge of entrepreneurship ecosystems.

COURSE DESCRIPTION: ENVIRONMENTAL ECONOMICS
PREPARED BY: DR. KATALIN ERDŐS, ASSISTANT PROFESSOR

Course title: Environmental Economics Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: optional	
Proportion of theoretical/practical content ("educational character"): 50% – 50%	
Type and number of classes: lecture, 20 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity, interactivity, and collaboration	
Assessment method: oral examination Specific characteristics of assessment: during the oral examination, the emphasis is placed on checking the students' theoretical knowledge and their ability to apply it in practice. At the colloquium, students present the solution to a pre-chosen problem and answer the related questions.	
Placement in the curriculum: 3rd semester	
Prerequisites: none	
Course description and objectives	
Economic growth has been accompanied by a rise in living standards in many parts of the world, despite the often rapidly growing population. The multiplication of GDP in a short period of time is undoubtedly a remarkable economic achievement, and the improvement in certain social indicators (life expectancy, literacy, etc.) is also welcome, but unfortunately, a large process of degradation has taken place in the environmental sphere at the same time. The aim of the course is to present the relationship between socio-economic growth and the occurrence of environmental damage, to shed light on the driving forces behind the phenomena, and to discuss all the environmental economic tools and policies that are intended to promote the shift towards sustainable development. Topics and content 1. History of environmental protection. The concept, object and connection of environmental economics to the economics of natural resources and ecological economics. The relationship between society and the economy. Measuring well-being 2. The relationship between the economy and the environment. An economic approach to environmental problems. The linear economic model and its alternatives 3. Environmental policies. The tools of environmental economics 4. Air pollution. Water pollution	

5. Soil pollution. Biodiversity.

Required and recommended readings

Required literature:

Daniel J. Phaneuf – Till Requate (2016): A Course in Environmental Economics. Theory, Policy and Practice. Cambridge University Press

Recommended literature:

Roger Pearman – Yue Ma – Michael Common – David Maddison – James McGilvray (2011): Natural Resource and Environmental Economics. Pearson Education. 4th edition

Tom Tietenberg – Lynne Lewis (2015): Environmental & Natural Resource Economics. Pearson Education. 10th edition

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students know the main theories of environmental economics	Students are able to independently analyse complex economic issues affecting both the environment and society	They perform their work with consideration of social and environmental aspects in addition to the economic one	In addition to a high level of professionalism, their work is characterized by social and environmental responsibility
Students are aware of the economic interpretation of sustainability	Students are able to independently collect, process and interpret data for environmental economics research.	They are open to interdisciplinary approaches	In their work, they follow the principles of responsible and ethical research

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
They are able to distinguish between the economic approaches to different environmental problems and their application possibilities	They are able to analyse and evaluate the economic impact of environmental policy decisions	They strive for ethical, transparent and socially and environmentally beneficial research practices	They communicate independently and responsibly on environmental economic issues
They know the most important concepts, theories and applied methods of environmental economics	They are able to apply quantitative and qualitative analysis methods of environmental economics in their own research	Their work is characterized by professional demand, accuracy and environmental responsibility	They strive to mainstream sustainability aspects in research and analysis

COURSE DESCRIPTION: HUMAN RESOURCE MANAGEMENT
PREPARED BY: Dr. habil Zsófia ÁSVÁNYI, Associate Professor

Course title: Human Resource Management Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: optional	
Proportion of theoretical/practical content (“educational character”): 60%-40%	
Type and number of classes: lecture, 20 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity and collaboration	
Assessment method: – Oral final examination on the topics covered in the syllabus (60%) – Student presentation on a topic agreed at the beginning of the semester (40%) Specific methods of assessment: During the consultations, short frontal lectures are always followed by professional discussions and student presentations. The lectures establish the common terminology, the theoretical foundations, and the key points of each topic; the professional discussions serve to interpret and refine the knowledge acquired; and the student presentations enrich and develop the participants’ presentation and discussion-moderation skills.	
Placement in the curriculum: 3rd semester	
Prerequisites: -	
Course description and objectives	
The course aims to provide students with comprehensive knowledge in the field of strategic human resource management. Following the structure of key domestic and international textbooks, the consultations review HRM tools that support organisational effectiveness and efficiency, focusing on their alignment with organisational strategies (vertical fit), with each other, and with other functional strategies (horizontal fit). Another important aim of the course is to foster professional discourse among students, drawing attention to the interconnections between human resource management and other organisational aspects. Topics and content 1. Strategic Human Resource Management Models 2. Strategic Human Resource Acquisition 3. Reward and Incentive Management 4. International Human Resource Management 5. Industrial Relations and Human Resource Management	

Required and recommended readings
Required literature: – Ásványi, Zs. (2022): Strategic Human Resource Management. Wolters Kluwer. ISBN 978-963-594-028-8 https://pea.lib.pte.hu/handle/pea/34185 – Dessler G. 2020. <i>Human Resource Management</i>. Pearson. – Mathis, R. L. Jackson J. H. Valentine S. R. Meglich P. A. 2020. <i>Human Resource Management</i>. Cengage Learning. – Cavusgil, S. T. Knight G. Riesenberger J. 2017. <i>International Business – The New Realities</i>. Pearson. – Dowling P. J. Festing M. Engle A. D. Sr. 2017/2019. <i>International Human Resource Management</i>. Cengage Learning EMEA. Recommended literature: Any topic-related book or article published after 2022.

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
understands the key functions of strategic human resource management	can critically analyse theoretical models of strategic human resource management	is open to integrating international and interdisciplinary perspectives into HRM research and practice	can formulate independent research questions in the field of strategic HRM
knows how the functions of human resource management contribute to organisational goals	can interpret the applicability of HRM tools in different organisational contexts	is committed to scientific rigour and ethical research conduct	takes professional and ethical responsibility for his/her own work, research findings, and scholarly communication
	can engage in professional debates on HRM-related issues and substantiate his/her position with scientifically grounded arguments	values critical thinking, diverse perspectives, and the role of constructive professional discourse	

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
knows the main theories and models of strategic human resource management and their organisational contexts	can critically analyse and compare HRM models in different organisational and international contexts	is open to integrating different scientific schools of thought and interdisciplinary approaches into the study of HRM	can independently formulate research questions
understands the significance of the vertical and horizontal alignment between HRM and organisational strategy	can independently synthesise the findings of domestic and international literature and draw scientifically sound conclusions from them	is committed to scientific rigour and ethical research conduct	takes responsibility for his/her own scientific position and for the conclusions presented
knows the challenges and trends of international HRM		is open to recognising cultural differences and diversity as values	can take an active role in scientific debates
		values critical thinking and the role of professional discourse within the academic community	

COURSE DESCRIPTION: INDUSTRIAL ORGANIZATION
PREPARED BY: DR. RICHÁRD FARKAS, ASSISTANT PROFESSOR

Course title: Industrial organization Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: compulsory	
Proportion of theoretical/practical content (“educational character”): 100%-0%	
Type and number of classes: lecture, 12 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity, interactivity, and collaboration	
Assessment method: oral examination Specific characteristics of assessment:	
Placement in the curriculum: 3rd semester	
Prerequisites: Microeconomics (BA course)	
Course description and objectives	
The goal of this course is to extend the analysis tool pack that students picked up during their graduate microeconomic studies with the help of advanced industrial organization models. For an economic researcher, it is essential to be able to employ the modern analysis tools of industrial organization to describe and investigate markets and market structures. On the one hand, it is indispensable for industrial economic researchers. On the other hand, the basic models of industrial organization provide the connected sub-fields of economics (e.g. macroeconomics, regional economics, finance, etc.) with the assumptions and starting points of economic modelling. Thus, the present course focuses mainly on market structures, pricing strategies and interactions between firms. Topics and content 1. Price discrimination and monopoly: linear pricing. Feasibility of price discrimination. Third-degree price discrimination. Social welfare with third-degree price discrimination. 2. Price discrimination and monopoly: non-linear pricing. First- and second-degree price discrimination. Social welfare with first- and second degree price discrimination. 3. Oligopoly: Cournot competition, the Bertrand duopoly model, the Stackelberg model of quantity competition. 4. Anticompetitive strategies I.: limit pricing and entry deterrence. 5. Anticompetitive strategies II.: asymmetric information and limit pricing. Contracts as a barrier to entry.	

6. Horizontal mergers and the merger paradox. The merged firm as a Stackelberg leader. Bertrand competition and mergers. 7. Vertical mergers, elimination of double marginalization. Vertical merger, oligopoly and market foreclosure. Conglomerate mergers. 8. Vertical price restraints. Resale price maintenance to insure the provision of retail services. 9. Nonprice vertical restraints. Exclusive selling and territorial arrangements. Franchise and divisionalization. 10. Nonprice competition. Research and development. The model of competition via innovation. Patents and patent policy. The optimal patent length and patent breadth.
Required and recommended readings
- Essential Pepall, Lynne – Richards, Dan – Norman, George (2014): Industrial Organization: Contemporary theory and Empirical Applications. Blackwell Publishing - Recommended Carlton, Dennis W. – Perloff, Jeffrey M. (2016): Modern Industrial Organization. Pearson Education.

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Knowledge of the basic models of market theory	Develops the ability to develop models further, to answer a given research question	Broader perspective	They conduct their analyses with the greatest care
The correct application of models in the appropriate analysis	Creating simpler models that were not former developed and apply it for a certain problem	Professionally dedicated	Professional responsibility support
Understanding the effects of several competition policies			

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Knows the functioning of perfectly competing, monopolistic and oligopolistic industries	ability to develop existing models	accurate analyses	professional responsibility
Knowledge of the more complex profit maximization strategies, such as price discrimination, etc.	forecasting the expected effects of the advanced firm pricing strategies	Constructing analyses framework for difficult problems	Suggesting solution methods with the greatest care
Knowledge of the effects of the larger mergers	Supporting competition policies		

COURSE DESCRIPTION: INNOVATION MARKETING AND MANAGEMENT
PREPARED BY: BEATRIX LÁNYI, PHD, ASSOCIATE PROFESSOR

Course title: Innovation marketing and management Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: Elective	
Proportion of theoretical/practical content (“educational character”): 30% – 70%	
Type and number of classes: lecture, 12 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity, interactivity, and collaboration	
Assessment method: Colloquium Assessment in this course is adapted to the specific characteristics of doctoral education, focusing primarily on independent research, literature analysis, and scientific communication. Students are required to process and present a selected international academic article, which develops their critical analytical skills, methodological sensitivity, and academic debate culture. In addition, students must conduct a literature-based investigation related to their doctoral research topic and present their results, thereby demonstrating scientific autonomy, methodological preparedness, and professional communication skills. The analysis and joint discussion of Harvard and MIT case studies also form part of the evaluation, as these activities enhance students’ problem-solving capacity and strategic thinking. Importantly, assessment does not rely on a traditional exam: evaluation is based entirely on individual performance, critical thinking, and scientific contribution, in line with international doctoral education standards.	
Placement in the curriculum: 3rd semester	
Prerequisites: -	
Course description and objectives	
The aim of the course is to provide PhD students with in-depth, critical, and interdisciplinary knowledge of the interconnections between innovation processes, marketing strategies, and management tools. Throughout the course, students will gain insight into the conceptual frameworks, types, and life cycles of innovation, as well as their economic, social, and market embeddedness. Special emphasis is placed on the relationship between innovation management and innovation marketing, as well as their role in organizational and strategic decision-making. Topics and content 1. The meaning and significance of innovation in the context of competitiveness. 2. Evolution of corporate innovation processes and models. Planning innovation processes from idea generation to market introduction	

3. Value creation through business model innovation
4. The meaning and management of disruptive innovation
5. The role of innovation in creating consumer value and experiences. Smart and connected challenges

Required and recommended readings

Required literature:

- Amitt R., Zott Ch. (2012) Creating Value Through Business Model Innovation, *MIT Sloan Management Review*, 53(3), 41-49.
- Christensen C.M., Bartman Th., van Bever D.C.M. (2016) The Hard Truth About Business Model Innovation, *MIT Sloan Management Review*, 13 Sept.
- Christensen C.M., Hall T., Dillon K., Duncan D. (2016) Know Your Customer's „Jobs to Be Done“, *Harvard Business Review*, 94(9), 54-62.
- Christensen C. M., Raynor M. E. , McDonald R. (2015) What Is Disruptive Innovation?, *Harvard Business Review*, December
- Nakata, C. (2020). Design thinking for innovation: Considering distinctions, fit, and use in firms. *Business horizons*, 63(6), 763-772.

Recommended literature:

- Day G. S., Shea G. (2020) Changing the Work of Innovation: A Systems Approach, *California Management Review*, 63(1), 41-60.
- Dell'Era, C., Magistretti, S., Cautela, C., Verganti, R., Zurlo, F. (2020). Four kinds of design thinking: From ideating to making, engaging, and criticizing. *Creativity and Innovation Management*, 29(2), 324-344.
- Galanakis A. (2006) Innovation process. Make sense using systems thinking, *Technovation*, 26(11), 1222-1232
- Grassmann O., Enkel E., Chesbrough H. (2010) The future of open innovation, *R&D Management* 40(3), 213-221.
- Si, S., Chen, H. (2020). A literature review of disruptive innovation: What it is, how it works and where it goes. *Journal of Engineering and Technology Management*, 56, 101568.

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Has in-depth knowledge of the socio-economic context of innovation theory and of the Hungarian and international literature on innovation marketing and management.	Can apply theoretical concepts to the analysis of concrete cases and international case studies and draw relevant conclusions.	Open to new scientific results, international trends.	Able to independently identify research topics and process relevant literature as well as critically evaluate the results.
Possesses comprehensive knowledge of innovation models, disruptive innovation, and the strategic role of business model innovation.	Can identify and evaluate the critical milestones of innovation processes and adapt them to their own research.	Committed to active participation in academic discourse and constructive collaboration in professional and research communities.	Takes responsibility for their own scientific performance, the reliability of their research results, and their social relevance.
Understands how innovations contribute to consumer value creation and organizational competitiveness.			

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Has a comprehensive understanding of the main directions of innovation theory.	Able to analyze Hungarian and international literature in innovation marketing and management with a critical perspective.	Appreciates collaboration and knowledge-sharing within research communities.	Independently selects and processes relevant international literature in the field of innovation marketing and management and critically evaluates it.
Understands the models of innovation, their critical	Can apply theoretical models to solve practical examples.	Strives to achieve relevant and useful results in their research work.	Conducts literature-based research autonomously in connection with the own

milestones, and organizational applications.			research topic and able to present the results.
Knows the strategic role of business model innovation as well as the mechanisms of value and experience creation.	Can design, carry out, and synthesize literature research with scientific rigor.		Makes independent decisions regarding the perspectives of cases and theory analysis and takes responsibility for the consequences of the own interpretations in group discussions.
Is familiar with major international literature trends and is able to compare them with Hungarian practices.	Can design and implement research related to their doctoral topic and present the results.		Actively and constructively participates in the academic discourse, fostering critical debate and interactive learning

COURSE DESCRIPTION: INFORMATION TECHNOLOGY MANAGEMENT PREPARED BY: FERENC KRUSZLICH, ASSOCIATE PROFESSOR

Course title: Information Technology Management Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: optional	
Proportion of theoretical/practical content (“educational character”): 40% – 60%	
Type and number of classes: lecture, 12 hours Language of instruction: English Additional (specific) methods and characteristics applied for knowledge transfer: focusing on business solutions and results by presenting detailed case studies from the real world and finish with implementing leading mining tools on big data.	
Assessment method: written semester paper Specific methods to be used in knowledge assessment (if any): Students must write a semester paper on their intended area of research, using applied text mining to identify trends, gaps, and necessary methodologies based on the faculty's available academic resources needed for successful publication.	
Placement in the curriculum: 4th semester	
Prerequisites: -	
Course description and objectives	
The main goal of this course is to improve students' knowledge and skill in data and text mining, with special focus on research and automatic literature processing. This course is designed as a special introductory and theoretical level for anyone who is interested in processing and analyzing large amount of numeric and text data. The course introduces the main concepts and methods data mining, demonstrates how it is applied for text corpora, and outlines different visualizations and natural language processing techniques. Case studies are discussed on topics of knowledge management, business intelligence and sentiment analysis. Topics and content 1. Business Analytics and Case Studies (basic and complex data types and structures, data collection and visualization, multidimensional databases, data cleaning and preparation, data driven decision making methods) 2. Data Mining Techniques and Case Studies (machine learning approaches, pattern discovery methods, model building and evaluation, performance considerations) 3. Text Mining Techniques and Case Studies (data scraping, feature extraction and representation, text clustering and classification, text pattern matching, sentiment analysis, summarization and topic modeling, large language models)	

Required and recommended readings
Required literature: Hofmann, M., Klinkenberg, R. (2014) RapidMiner: Data Mining Use Cases and Business Analytics Applications. CRC Press ISBN 978-1-482-20549-7 Recommended literature: Qamar, U., Raza, M.S. (2024). Applied Text Mining, Springer ISBN 978-3-031-51916-1 Ignatow, G., Mihalcea, R. (2017): Text Mining: A Guidebook for the Social Sciences. SAGE, ISBN 978-1-483-36934-1 Selected papers and case studies available on Moodle

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students will understand how to collect and use unstructured data and ways to apply it to enhance research work by knowing basic concepts and methods in data and text mining.	Use open data and text analysis and visualization tools to explore interesting patterns. Implement and use some of the most important data mining and text mining algorithms.	Students are confident in their research interest and can work in heterogeneous software environments. Open to innovative solutions and ready for professional improvement.	Students are responsible for the quality of their work and the validity of sources they have used. They ensure that their complete work is repeatable and the result are reproducible.
Students will develop a solid foundation in data mining and text-based descriptive and predictive analytics.	Students will be able to work with Big Data and use natural language techniques to solve high dimensional problems.	Students avoid plagiarism and use artificial intelligence and machine learning technologies in an ethical manner.	They will demonstrate professional dedication and act in accordance with academic standards and norms.

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
They will learn how unstructured data can be useful for research by using different transformational representations.	They will be able to use data and text mining software packages and visualization platforms.	Their professional work will be marked by accuracy, responsibility, and academic rigor.	They will communicate responsibly and independently about professional issues within their field of research
They will understand the general pipeline of a text analysis system, capable of applying text processing and analytics and its current limitations.	They will be able to follow the process of data and text mining standards, including data collection, preparation, analysis and validation.	They will be open to receiving feedback, and able to process and integrate constructive criticism.	They are responsible for installing and configuring the software tools and environments and learning their user interface.
They will know how to apply and evaluate text processing techniques to prepare documents for machine learning modeling.	They will be capable of reconstructing, adjusting and validating existing models from the literature and applying to their own research topics.	They strive to comply with the ethical principles of data protection and to adhere to them as closely as possible.	Students recognize and can correct their mistakes in their theoretical and practical work, and can incorporate criticism into their development.

COURSE DESCRIPTION: STRATEGIC LEADERSHIP
PREPARED BY: PROF. DR. JAMES STRODE

Course title: Strategic Leadership Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: elective	
Proportion of theoretical/practical content ("educational character"): 50% – 50%	
Type and number of classes: lecture, 20 hours Language of instruction: English Specific characteristics of instruction: during the sessions, students will review articles and actively participate in lecture, discussion, and case studies.	
Assessment method: research paper Specific characteristics of assessment: students must prepare an individual research report on a freely chosen but approved leadership topic.	
Placement in the curriculum: spring	
Prerequisites: none	
Course description and objectives	
The strategic leadership in business course is a cornerstone of our doctoral business program, designed to empower future business leaders with the advanced skills and knowledge necessary to navigate the complex and dynamic landscape of the global business environment. This intensive and intellectually stimulating class focuses on cultivating visionary leaders who can drive organizational success through strategic decision-making, effective communication, and ethical leadership practices. Topics and content 1) Leadership Theories and Styles a) Classical and contemporary leadership theories (Trait, Behavioral, Contingency, Transformational, Transactional, Servant Leadership). b) Comparative analysis of leadership styles and their contextual effectiveness. c) Leadership development frameworks and assessment tools. 2) Emotional Intelligence in Leadership a) Components of emotional intelligence (self-awareness, self-regulation, motivation, empathy, social skills). b) Role of emotional intelligence in team dynamics, conflict resolution, and organizational culture. c) Measurement and development of emotional intelligence in leaders. 3) Strategic Leadership a) Strategic thinking and visioning in leadership roles. b) Aligning leadership with organizational strategy and change management.	

- c) Case studies on strategic leadership in complex environments.
- 4) Decision Making in Leadership Contexts
 - a) Decision-making models (rational, bounded rationality, intuitive, data-driven).
 - b) Cognitive biases and heuristics in leadership decisions.
 - c) Group decision-making dynamics and ethical considerations.
- 5) Design Thinking for Leadership Innovation
 - a) Principles of design thinking (empathize, define, ideate, prototype, test).
 - b) Application of design thinking to leadership challenges and organizational innovation.
 - c) Integrating creativity and user-centered approaches in strategic planning.
- 6) Diversity, Equity, and Inclusion in Leadership
 - a) Understanding diversity dimensions and inclusive leadership practices.
 - b) Impact of diverse teams on innovation and performance.
 - c) Strategies for fostering equity and inclusion in leadership and organizational culture.

Required and recommended readings

Required literature:

Northhouse, P.G. (2021). Leadership: Theory and Practice. 9th Ed. Sage.

Recommended literature:

Kouzes, J.M., & Posner, B.Z. (2017). The Leadership Challenge: How to Make Extraordinary Things Happen in Organizations. 6th Ed. Jossey-Bass.

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students will understand foundational and advanced leadership theories, emotional intelligence frameworks, and strategic decision-making models.	Students will be able to apply leadership styles in varied organizational contexts, use emotional intelligence to navigate interpersonal dynamics, and employ design thinking in problem-solving.	Their work will be characterized by empathy, cultural sensitivity, and openness to diverse perspectives.	Students will demonstrate initiative in leadership roles, uphold ethical standards, and foster inclusive environments.
They will gain insight into the role of strategic leadership in organizational transformation and the impact of diversity on team performance.	They will be able to critically evaluate leadership challenges, make data-informed decisions, and facilitate collaborative innovation.	Students will become reflective practitioners and academic leaders, committed to lifelong learning and personal growth.	They will take responsibility for team outcomes, promote shared leadership, and contribute to sustainable organizational development.

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students will be familiar with foundational and contemporary leadership theories, emotional intelligence frameworks, and strategic decision-making models.	Students will be able to apply leadership styles and emotional intelligence in organizational settings, and use design thinking to address complex challenges.	Their professional work will be marked by empathy, cultural awareness, and a commitment to inclusive leadership.	They will communicate responsibly and independently about leadership and organizational issues, demonstrating ethical and strategic judgment.
Students will understand the philosophical and psychological foundations of leadership, including theories of motivation, influence, and group dynamics.	Students will be able to analyze leadership case studies, facilitate team collaboration, and adapt leadership approaches to diverse contexts.	They will be open to feedback, reflective in practice, and committed to continuous personal and professional development.	They will take responsibility in conflict situations, promote equity, and act with integrity in leadership roles.
Students will be familiar with the principles of strategic leadership and the impact of diversity on organizational performance.	Students will be capable of designing and implementing inclusive leadership strategies and evaluating their effectiveness.	They will strive to uphold ethical leadership principles and foster environments of trust and respect.	Their work will be characterized by a focus on quality, shared leadership, and a commitment to organizational and societal well-being.

COURSE DESCRIPTION: MARKETING THEORY
PREPARED BY: DR. KRISZTIÁN SZÚCS, ASSOCIATE PROFESSOR

Course title: Marketing Theory Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: elective	
Proportion of theoretical/practical content ("educational character"): 80% – 20%	
Type and number of classes: lecture and group discussions, 12 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity, interactivity, and collaboration	
Assessment method: oral presentation Specific characteristics of assessment: each participating student is required to choose one of the discussed theoretical topics and prepare a presentation for it - through practical applications - in which he/she presents the transformation of the given field and its adaptation to current expectations.	
Placement in the curriculum: 4th semester	
Prerequisites: none	
Course description and objectives	
The aim of the course is to provide doctoral students with an overview of the basic concepts of the marketing discipline and their modern approaches. The goal is also to develop a comprehensive picture in addition to getting to know the toolset, which will make the students suitable for later applications and form constructive critical opinions. 1. Topics and content 2. Customer centricity in marketing (historical outlook and the current situation) 3. Strategic considerations: elements of STP 4. Marketing management: transformation of the toolbox in the digital era 5. Case Study: Amazon 2019 (HBS) 6. Individual presentations	
Required and recommended readings	
Mandatory literature: 1. McKenna, Regis (1991): "Marketing is Everything", Harvard Business Review, 69 (January/February), 65-79. 2. Quelch, J. A., & Jocz, K. E. (2008): „Milestones in marketing”, Business History Review, 82(4), 827-838.	

3. Smith, W. R. (1956): „Product differentiation and market segmentation as alternative marketing strategies.”, *Journal of marketing*, 21(1), 3-8.
4. Levitt, T. (1960). *Marketing myopia* (pp. 45-56). Boston.
5. Smith, N. C., Drumwright, M. E., & Gentile, M. C. (2010): „The new marketing myopia.”, *Journal of Public Policy & Marketing*, 29(1), 4-11.
6. Borden, N. H. (1964). The concept of the marketing mix. *Journal of advertising research*, 4(2), 2-7.
7. Kotler, P., & Levy, S. J. (1969): „Broadening the concept of marketing.”, *Journal of marketing*, 33(1), 10-15.
8. Green, P. E., & Rao, V. R. (1971): „Conjoint measurement-for quantifying judgmental data.”, *Journal of Marketing research*, 8(3), 355-363.
9. Levitt, T. (1983): "The Globalization of Markets", *Harvard Business Review*, 61(May/June), 92-102.
10. Yang, Z., & Peterson, R. T. (2004): „Customer perceived value, satisfaction, and loyalty: The role of switching costs.”, *Psychology & Marketing*, 21(10), 799-822.
11. Lemon, K. N., & Verhoef, P. C. (2016): „Understanding customer experience throughout the customer journey.”, *Journal of marketing*, 80(6), 69-96.
12. Meyer, C., & Schwager, A. (2007): „Understanding customer experience.”, *Harvard business review*, 85(2), 116.
13. Rawson, A., Duncan, E., & Jones, C. (2013): „The truth about customer experience.”, *Harvard Business Review*, 91(9), 90-98.
14. Deshpande, R. (2014): „Customer Centricity.”, *Core Curriculum Marketing*, Harvard Business Publishing, 21.

Recommended literature:

15. Brennan, Ross, Michael Harker, Gary Armstrong, and Philip T. Kotler. Armstrong (2019): *Marketing: An Introduction_p4*. Pearson Higher Ed
16. Rajamannar, R. (2021): *Quantum marketing: mastering the new marketing mindset for tomorrow's consumers*. HarperCollins Leadership.

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Comprehensive knowledge of the most important building blocks that ensure confident user knowledge. Practical application of acquired knowledge, its consequences, possibilities, and limitations.	It is evident that the students will cultivate their competencies in critical thinking and application as they translate theoretical approaches to business operations.	It is recommended that an attitude of welcome, openness and intellectual curiosity be adopted in order to facilitate a comprehensive exploration of a variety of scientific phenomena.	The students' work is characterized by quality orientation, equal roles, and a commitment to partnership. They will demonstrate professional dedication and act in accordance with academic standards and norms.

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
The interpretation frameworks of defining concepts and phenomena published in marketing literature, their current manifestations, and challenges related to the marketing toolkit. (PILO1, PILO3).	The programme is designed to equip participants with the ability to identify research gaps and enhance the capacity to integrate marketing theories with other fields of study.	It is evident that students will develop their openness to discovering new theories and approaches and subsequently discuss these with their peers in teams.	The requirement for individual presentations is that they should establish specific outcomes, demonstrate maturation, and exhibit a sophisticated comprehension of a particular marketing topic. This enables candidates to formulate cogent arguments.

COURSE DESCRIPTION: INNOVATION AND NETWORK ANALYSIS
PREPARED BY: PROF. DR. TAMÁS SEBESTYÉN, PROFESSOR

Course title: Innovation and Network Analysis Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: elective	
Proportion of theoretical/practical content (“educational character”): 40% – 60%	
Type and number of classes: lecture, 20 hours Language of instruction: English Specific characteristics of instruction: classes are based on lectures about theoretical principles and software-based implementation of the theoretical concepts and models, requiring active contribution and cooperation from students in class. The contact classes provide insights into network analytics. Students are called to discuss academic papers about network structure and innovation in order to deepen their understanding in how networks shape innovative processes.	
Assessment method: written individual assignment Specific characteristics of assessment: The course ends with writing a semester paper. The paper should provide a standard analysis of a network of your choice (preferably related to your research area). The paper should present the data background of the network. The basic network indicators should be defined, presented and interpreted: size, density, paths, clustering, degree number distribution. Define the degree of scale dependence and propose a model describing the network evolution. Provide a suitable (complete or reduced) visualization of the network.	
Placement in the curriculum: 3rd semester	
Prerequisites: none	
Course description and objectives	
The course aims to introduce students to the basic tools and methods of network analysis. Building on these tools, it will cover some applications in the field of innovation and territorial development. In addition to theoretical knowledge, emphasis will be put on the skills of applying network analysis methods, which will be acquired in the practical parts of the course. The course will use Matlab and Gephi software for network analysis and visualisation respectively. The classes are devoted to methodological foundations of network analysis. Innovation related applications of network analysis are subject to students’ individual work through the pre-scribed compulsory reading in the field. Topics and content 1. Introduction. Innovation and networks. 2. Graph theory, basic network metrics. Degrees, centrality, distances, connectivity. 3. Random networks and their properties. ER model, configuration model, BA model. Degree distribution fitting. 4. Communities on networks, community detection, modularity.	

5. Network evolution from an economic perspective: cost/benefit models and equilibrium network structures.
6. Network visualization. Gephi.

Required and recommended readings

Required literature:

Methodology:

Barabási, A.-L.: Network Science. Cambridge University Press, 2016.

Networks and innovation:

Sebestyén, Tamás; Braun, Erik; Iloskics, Zita; Varga, Attila: Spatial and institutional dimensions of research collaboration: a multidimensional profiling of European regions. REGIONAL STATISTICS 11 : 2 pp. 3-31. , 29 p. (2021)

Sebestyén, Tamás; Hau-Horváth, Orsolya; Varga, Attila: How to get from the periphery into the core? The role of geographical location and scientific performance in network position in the field of neuroscience. LETTERS IN SPATIAL AND RESOURCE SCIENCES 10 : 3 pp. 297-325. , 29 p. (2017)

Varga, Attila; Sebestyén, Tamás: Does EU Framework Program Participation Affect Regional Innovation? The Differentiating Role of Economic Development. INTERNATIONAL REGIONAL SCIENCE REVIEW 40 : 4 pp. 405-439. , 35 p. (2017)

Kogler, Dieter F.; Whittle, Adam; Kim, Keungoui; Lengyel, Balázs: Understanding Regional Branching: Knowledge Diversification via Inventor and Firm Collaboration Networks. ECONOMIC GEOGRAPHY 99 : 5 pp. 471-498. , 28 p. (2023)

Tóth, G; Juhász, S; Elekes, Z; Lengyel, B: Repeated collaboration of inventors across European regions. EUROPEAN PLANNING STUDIES 29 : 12 pp. 2252-2272. , 21 p. (2021)

Lengyel, B; Bokányi, E; Di Clemente, R; Kertész, J; González, M C: The role of geography in the complex diffusion of innovations. SCIENTIFIC REPORTS 10 : 1 Paper: 15065 , 11 p. (2020)

Csáfordi, Zs; Lőrincz, L; Lengyel, B; Kiss, K M: Productivity spillovers through labor flows: productivity gap, multinational experience and industry relatedness. JOURNAL OF TECHNOLOGY TRANSFER 45 : 1 pp. 86-121. , 36 p. (2020)

Recommended literature:

Jackson, M.O.: Social and Economic Networks. Princeton University Press, 2008.

Easley, D., Kleinberg, J.: Networks, Crowds and Markets. Cambridge University Press, 2010.

Scott, J., Carrington, P.J. (eds.) Social Network Analysis. Sage, 2011.

Goyal, S.: Connections. An introduction to the economics of networks. Princeton University Press, 2007.

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students are familiar with the difficulties associated with describing the functioning of the economy in formal terms, and can use studies published in peer-reviewed journals as best practice.	Students are able to formulate research questions accurately and select appropriate methodological tools to answer them.	Students are empathetic and tolerant (towards others' lack of competence) in their work.	Students' work is characterized by a focus on quality, equal roles, and a commitment to partnership.
Students are familiar with the most important methods for describing and empirically analyzing economic processes and phenomena and the relationships between them, as well as the limitations of these methods	Students are able to formally describe economic relationships and processes.	Students have an innovative mindset, ready for continuous professional development.	Students take professional and moral responsibility for their own work.
	Students are able to interpret the results of empirical analyses	Students perform their work with a sense of vocation, in accordance with professional standards.	

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students know the basic concepts and methods of network analysis and are aware of the limitations of these methods.	Students are able to use the Matlab software package to implement network analysis tools.	Students' work is characterized by accuracy, responsibility, and professional standards.	Students communicate independently and responsibly on professional issues related to their field of research

Students know the possibilities, advantages, and limitations of using network analysis tools in economic research.	Students are able to create the data structures necessary for network analysis.	Students are open to receiving feedback on their results and are able to process and incorporate constructive criticism.	Students develop their position and the purpose and method of their scientific communication in collaboration with their professional partners, and strives for cooperation
Students know the basic literature dealing with the relationship between knowledge networks, innovation, and economic growth.	Students are able to interpret scientific publications containing network analysis and incorporate them into their own work.	In conflict situations, students take responsibility for their own work and strive to correct any mistakes in a professional manner.	Students take responsibility for the results of their modeling and their interpretation, but is aware of and communicates the limitations of modeling
	Students are able to interpret numerical network analysis results.		Students strive to comply with ethical modeling guidelines and promotes these principles to the extent possible

COURSE DESCRIPTION: Operations Management
PREPARED BY: Vörös József, research professor

Course title: Operations Management Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: compulsory	
Proportion of theoretical/practical content ("educational character"): 40% – 60%	
Type and number of classes: seminar, 12 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity, interactivity, and collaboration	
Assessment method: written examination Based on the compulsory literature around 20 questions are formulated in advance, from which usually 5-6 are elected for the exam. Answers should reflect the sound knowledge of the literature.	
Placement in the curriculum: 2nd semester	
Prerequisites: deep knowledge of the content of a basic book in operations management. Suggested: Krajewski/ Malhotra/ Ritzman: Operations Management, 13th edition, Pearson, 2022	
Course description and objectives	
As it is known, Operations Management (OM) deals with the efficient transformation of inputs into outputs to satisfy customers' demand in the desired quality at the lowest possible cost in time, with flexibility. The aim of the course students is to understand the strategic role of operations in this process according to the latest development of the literature. Topics, content, and compulsory literature 1. Operations Strategy I: - Collis, D. J. and C. A. Montgomery: Competing on Resources: Strategy in the 1990s, Harvard Business Review (HBR), 1995, July-August, 118-128 - Porter, M. E.: What is strategy, HBR, 1996, November-December, 61-78. - Kaplan, R. S. and D. P. Norton: Mastering the management system, HBR, 2008, January, 63-78. - Oberholzer-Gee F.: Eliminate Strategic Overload, HBR, 2021, May-June, 89-97 - Porter, M. E. and J. W. Rivkin: The Looming Challenge to U.S. Competitiveness,	

HBR, 2012, March, 55-62.

2. Operations Strategy II:

- Hayes, R. H. and G. P. Pisano: Beyond World-Class: The New Manufacturing Strategy, HBR, 1994 Jan-Feb, 77-86.
- Wise, R. and P. Baumgartner: Go downstream. The new imperative in manufacturing, HBR, Sept-Oct, 1999
- Pisano, G. P. and W. C. Shih: Restoring American Competitiveness, HBR, July-Aug, 2009. 114-125
- Collis, D. J.: Why do so many strategies fail? HBR, July-Aug, 2021
- Oliva, R. and J. H. Gittel: Southwest Airline in Baltimore, HBS case study, 9-602-156

3. Innovation:

- Dychtwald, Z.: China's new innovation advantage, HBR, 2021, May-June, 55-60
- Pisano, G., You need an innovation strategy, HBR, June 2015, 44-54.
- Christensen et al.: One more time: What is disruptive innovation? HBR, Dec 2015, 44- 53
- Kim, W. C. and R. Mauborgne: Innovation doesn't have to be disruptive, HBR, May-June, 2023, 73-81
- Heskett et.al.: Putting Service-Profit Chain to Work, HBR, 1994 March-April, 164-174

4. Aggregate planning:

- Fisher et. al.: Making Supply Meet Demand in an Uncertain World, HBR, 1994, May-June, 83-93
- Chopra, S. and P. Meindl: Supply Chain Management, 2013, Pearson, Chapters 8, 9
(or Vörös J.: Termelés- és szolgáltatásmanagement, Akadémia Kiadó 2010, vagy 2018, pages 202-229), or any more recent OM book covering the same topic
- Vörös, J.: Production dynamics in case of organizational learning, *Computers & Industrial Engineering*, July 2021, DOI: 10.1016/j.cie.2021.107340

5. Inventory Management:

- Barilla A, HBS Case 9_694-046
- Chopra, S. and P. Meindl: Supply Chain Management, 2013, Pearson, Chapters 11, 12, 13, (or Vörös J.: Termelés- és szolgáltatásmanagement, Akadémia Kiadó 2010, vagy 2018, pages 263-296), or any more recent OM book covering the same topic
- Fisher: What is the Right Supply Chain for Your Product? HBR, 1997, March-April, 105-116

- Vörös J.: Economic order and production quantity models without constraint on the percentage of defective items, 2013, *Central European Journal of Operations Research*, 21(4) pp. 867-885

6. JIT and TQM:

- Mishina, K. and K. Takeda, Toyota Motor Manufacturing USA, HCS, 9-693-019
- Vörös, J and G. Rappai: Process quality adjusted lot sizing and marketing interface in JIT environment, 2016, *Applied Mathematical Modelling*, [40\(13–14\)](#), 6708–6724
- Watanabe, K.: Lessons form Toyota's Long Drive, HBR, 2007, July-Aug, 74-83
- Toyoda, A.: Chairman Toyoda on TPS and his Fight to Restore Authority to the Genba, 2024, http://toyotatimes.jp/en/toyota_news/1054.html, magyarul:
- Sadun R, N. Bloom and J. van Reenen: Why do we undervalue competent management? HBR, 2017, Sept-Oct, 121-127
- Vörös, J.: An analysis of the dynamic price-quality relationship, *European Journal of Operational Research*, 2019, 277, 1037-1045

7. Competing through operations I.

- Porter, M. and J. Heppelmann: How smart, connected products are transforming companies, HBR, Oct 2015, 97- 114
- Zeng, M.: Alibaba and the Future of Business, HBR, Sept-Oct, 2018, 88-96
- Pisano, G. P. and W. C. Shih: Does America Really Need Manufacturing? HBR, March, 2012, 94-102
- Eapen, T. T., D. J. Finkenshtadt, J. Folk and L. Venkataswamy: How generative AI can augment human creativity, HBR, July-August, 2023, 57- 64

8. Competing through operations II:

- Iansiti, M. and K. R. Lakhani: Competing in the age of AI, HBR, 2020, Jan-Feb, 60-68
- Tamayo, J et al.: Reskilling in the Age of AI, HBR, 2023, Sept-Oct, 57-65
- Gunther McGrath, R.: Transient advantage, HBR, 2013. June, 62-70
- Cook, S., A. Hagi, J. Wright.: Turn Generative AI from an Existential Threat into Competitive Advantage, HBR, 2024, Jan-Feb, 118-125
- Barney, J. B. and M. Reeves: AI won't give you a new sustainable advantage, HBR, 2024, Sept-Oct,

Conclusions

Pisano, G. P.: How fast should your company really grow? *Harvard Business Review*, 2024, March-April, 39-45

Christinsen, C. M.: How will you measure your life? *Harvard Business Review*, 2010, July-Aug

Pre-requisite reading

See the note above

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
It is supposed student are in aware of the content of a top, up-to-date basic hand-book in OM, thus the course focuses on the role of operations capabilities in shaping the competitiveness of the company to be outstanding at high quality, low cost, in short deliveries on a flexible way. Reading, understanding, implementing the content of the articles provided by the course students understand the state-of-the-art level issues connected with product and process design, including supply chain design in case of both tangible products and services at the age of artificial intelligence.	The ability of playing decisive role in designing and managing processes in an efficient way in the supply chains, let it be either production or service process.	Reading the paper suggested beneath conclusions above, namely, Christinsen, C. M.: How will you measure your life? <i>Harvard Business Review</i> , 2010, July-Aug, hopefully will determine students' attitude for the whole life.	Students are motivated and required to deal with real life business issues intimated through case studies exclusively produced by Harvard Business School. They need to present their thoughts on issues raised by the case studies.

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
The specific issues of operations management are how to design and operate production/service systems to satisfy customers' needs in dimensions like cost, quality, time, and flexibility. The topics offered deepen students' knowledge in these field which constitute the privilege territories of operations management.	They improve their ability to manage and control production processes, production planning and inventory management problems, solving queuing and scheduling tasks.	See the above notes	Cases studies are extended with business games, and presentations provide full autonomy. The suggested reading (Christensen) will remind them for their responsibility.

COURSE DESCRIPTION: RESEARCH SUPPORT 1.
PREPARED BY: DR. GÁBOR BALOGH, ASSOCIATE PROFESSOR

Course title: Research Support 1. Program: International PhD in Business Administration/Regional Policy and Economics		Credits: 6			
Course type: compulsory					
Proportion of theoretical/practical content (“educational character”): 40% – 60%					
Type and number of classes: lecture, 12 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity, interactivity, and collaboration This module is delivered through an integration of lectures and experiential activities. The theoretical framework of the course is conveyed through concise lecture introductions, which elucidate the theoretical background, key concepts, and pertinent issues related to the subject matter. Additionally, student engagement is facilitated through discussions of practical problems and exercises. Moreover, students are expected to apply this theoretical knowledge to complete tasks, either individually or collaboratively in groups.					
Assessment method: Self-reflective essay (40%); Activity during the class (60%)					
Individual Assessment		% 40	Group Assessment	% 60	
Name of the element	Weight	Type	Details	Retake opportunity	Req.*
Self-reflective essay	40%	Individual, written	Students must prepare an individual assignment on a freely chosen but approved topic (3-5 pages)	One retake opportunity: Should a student miss the submission deadline, there is the opportunity to submit the individual assignment within five working days after the original deadline. There are no further retake opportunities for late submissions. Assignments submitted on time but failed can be revised only one time.	Yes
Activity during the class	60%	Group, oral, coursework	Students must prepare the group assignments personally during the class on a given topic	One retake opportunity: If a student is unable to attend the contact class personally, he/she can choose freely a chapter from the essential learning materials (approved by the modul leader) and elaborate it in 10 pages with own connections and self-reflections. The final deadline is the end of the semester.	Yes

** Req.: Completion of the element is required to pass the course, irrespective of the performance in other elements.*

Placement in the curriculum: **1st semester**

Prerequisites: -

Course description and objectives

This course is designed to familiarize students with the fundamental aspects of research. It addresses topics such as academic writing, navigating the path to a PhD, finding motivation, setting realistic objectives, and managing potential challenges. Furthermore, it explores strategic decisions in research methodology. Throughout the course, these subjects are examined through a training approach that incorporates personal experiences.

Topics and content

1. Introduction to Research: What constitutes the general definition of research within the social sciences, and how is this concept applied in the fields of business administration and regional development? Distinctive Characteristics of Various Scientific Disciplines: An examination of the unique features of disciplines such as marketing, management, and regional development.
2. The Ideal Partnership with a Supervisor: Steps necessary to attain a PhD, including factors that contribute to success and potential risks involved. Self-Awareness: Identifying personal strengths and areas for skill enhancement.
3. Guidelines for Crafting a Research Proposal and Developing a Research Plan. Characteristics of a Strong Research Topic: What constitutes a successful PhD theme, and how can one find inspiration and develop original ideas?
4. Methods for Gathering Research Information: Selecting between qualitative and quantitative approaches, conducting literature reviews, understanding citation practices, avoiding plagiarism, HARKing and utilizing resources such as Google Scholar and datasets. Conducting and Analyzing Surveys: What defines a well-formulated hypothesis?
5. Overview of Review Processes, International Journals, and Editorial Roles. Participants Summarize the Forthcoming Steps.

Required and recommended readings

Required literature:

Babbie, E. (2021): The practice of social research. Boston, MA : Cengage (or previous editions)

Recommended literature:

Pervez, G. (2020): Research Methodology in Business Studies. Cambridge University Press

Schindler, P. (2021): Business Research Methods. USA: McGraw-Hill Education

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students can use the main principles, types and key expressions of research methodology.	Students will be able to compare different research methods (qualitative and quantitative surveys, literature review, etc.) and select the adequate techniques to the research goals.	Their work will be characterized by empathy and tolerance (especially regarding others' lack of competence).	The students' work is characterized by quality orientation, equal roles, and a commitment to partnership.
Student will understand the relatedness of methodology and different scientific fields.	They will be able to explain the relationship between research, publishing, citation and writing PhD thesis.	Students will become innovative and ready for continuous professional development.	They will demonstrate professional dedication and act in accordance with academic standards and norms.

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
They will be able to apply the theoretical concepts for the solution of practical problems in review processes.	They will be able to categorise the possible research topics and analyse its power from publishing aspect.	Their professional work will be marked by accuracy, responsibility, and academic rigor.	They will communicate responsibly and independently about professional issues within their field of research
They will be familiar with the philosophical background of research in general).	They will be able to make suggestions for solving complex problems in methodological and personal aspects of collaboration.	They will be open to receiving feedback, and able to process and integrate constructive criticism.	They will take responsibility in conflict situations and make every effort to correct possible mistakes professionally.

		They will strive to comply with ethical research principles and promote them to the extent possible.	Students strive to comply with ethical researching guidelines and promote these principles to the best of their ability their work is characterized by a focus on quality, equal roles, and partnership
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COURSE DESCRIPTION: HOW TO GET PUBLISHED IN LEADING JOURNALS

PREPARED BY: PROF. DR. GEOFFREY WOOD

Course title: How to Get Published in Leading Journals Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: compulsory	
Proportion of theoretical/practical content (“educational character”): 40% – 60%	
Type and number of classes: lecture, 10 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity, interactivity, and collaboration	
Assessment method: written examination Specific characteristics of assessment:	
Placement in the curriculum: 2nd semester	
Prerequisites: none	
Course description and objectives	
Topics and content 1. Introducing the publication ecosystem. 2. Publishing literature reviews 3. Publishing quantitative papers 4. Publishing qualitative papers 5. Understanding impact and citations 6. Understanding the review process.	
Required and recommended readings	
Required reading: Budhwar, P., Wood, G., Chowdhury, S., Aguinis, H., Breslin, D., Collings, D. G., ... & Suddaby, R. (2024). Articulating scholarship in human resource management: Guidance for researchers. <i>Human Resource Management Journal</i>, 34(3), 830-863. Recommended literature: Wright, M., Ketchen Jr, D. J., & Clark, T. (Eds.). (2020). <i>How to get published in the best management journals</i>. Edward Elgar Publishing. Clark, T. A. R., & Wright, M. (2007). Reviewing journal rankings and revisiting peer reviews: Editorial perspectives. <i>Journal of Management Studies</i>, 44(4), 612.	

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Knowledge of the publication ecosystem	Structuring and developing an article	Engagement with feedback process	Independent analytical skills

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Being able to identify appropriate publication outlets	Being able to analyze academic articles in terms of structure and content	Open ended engagement with scholarly arguments and feedback process.	Ability to engage in independent and group work based critical enquiry.
Understanding how the publication process works.	Being able to present and defend a scholarly idea as a basis for a paper.		

**COURSE DESCRIPTION: RESEARCH SUPPORT 3–SYSTEMATIC
LITERATURE SURVEY
PREPARED BY: DR. HABIL. KOVÁCS KÁRMEN, ASSOCIATE PROFESSOR**

Course title: Research Support 3–Systematic Literature Survey Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: compulsory	
Proportion of theoretical/practical content (“educational character”): 20% – 80%	
Type and number of classes: lecture, 12 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity, interactivity, and collaboration	
Assessment method: individual assignment Specific characteristics of assessment: Students must prepare a literature review draft on a topic related to their doctoral dissertation using the method of systematic literature review (SLR). Its length should be between 1,500 and 2,500 words without the additional parts (e.g., cover sheet, references). The SLR draft has to involve the following elements with clear description and explanation: Research topic, Research purposes, Theoretical background of the research, Research question(s), Applied databases, Scoping literature research, Searching method, Searching strategy (keywords, research algorithm etc.), Including and excluding criteria, PRISMA diagram, Bibliographic analysis, Thematic analysis. (Submission to Moodle until deadline)	
Placement in the curriculum: 3rd semester	
Prerequisites: -	
Course description and objectives	
The course aims to introduce students to the basic concepts and theoretical background of systematic literature research, as well as to offer an opportunity to apply the method in connection with their field of research. As part of this course, students will be guided to explore new areas of research and plan the processing of relevant literature. The course answers the following questions, among others: How to search the literature effectively? Why is it advantageous to map the literature related to a given research area using the SLR method? What makes a systematic literature review useful? What are the steps to perform a systematic review? Topics and content 1. The method of systematic literature review (SLR). Studies using the SLR method (good practices).	

2. Development of search strategy (protocol) (structured research question, keywords). Electronic journal databases, search techniques, reference/bibliography manager software.
3. Conducting “scoping search” based on a search strategy. Finalizing SLR strategy (protocol) based on the results of the “scoping search”, documentation.
4. Additional search techniques and “data extraction” techniques.
5. Steps of synthesis. Structure of the synthesis based on the relevant literature.

Required and recommended readings

Required literature:

Gough D., Oliver S., Thomas J. (2017): *An introduction to systematic reviews*. London: Sage Publication.

Jesson, J. K., Matheson L., Lacey F. M. (2011): *Doing your literature review: Traditional and systematic techniques*. London: Sage Publication.

Recommended literature:

Littell, J. H., Corcoran J., Pillai V. (2008): *Systematic reviews and meta-analysis*. Oxford: Oxford University Press.

Petticrew M., Roberts, H. (2006): *Systematic reviews in the social sciences*. Oxford: Blackwell Publishing.

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students will understand the methodology of systematic literature review.	They will be able to search and select relevant academic literature.	They will strive for objectivity in evaluating scholarly sources.	Students will be capable of independently formulating research questions.
Students will comprehend the steps of SLR and their logical connections.	They will be able to extract structured summaries from literature.	They will be open to scientific critique and reflection.	Students will take responsibility for the scientific validity of research findings.
Students will be familiar with major academic databases and search strategies.	They will be able to produce a synthesis of the literature.	They will be committed to academic ethics.	Students will be able to make independent decisions during the research process.

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Students will understand the theoretical foundations and steps of SLR.	They will be able to collect and process literature based on the SLR method.	They will strive for scientific objectivity.	Students will be capable of independently preparing a research plan.
Students will comprehend the role of SLR in scientific research.	They will be able to synthesize findings from the literature.	They will be open to critical thinking.	Students will take responsibility for the research process.
Students will be familiar with methods for identifying research gaps.	They will be able to apply the learned method in their own research.	They will show interest in new research directions.	Students will be able to make independent decisions in processing the literature.
		They will be committed to ethical research and publishing practices.	Students will be able to independently formulate publication proposals.

COURSE DESCRIPTION: RESEARCH SUPPORT 4
PREPARED BY: GALAMBOSNÉ DR. TISZBERGER MÓNIKA, ASSOCIATE PROFESSOR, DR. KEHL DÁNIEL, ASSOCIATE PROFESSOR

Course title: Research Support 4 Program: International PhD in Business Administration/Regional Policy and Economics	Credits: 6
Course type: compulsory	
Proportion of theoretical/practical content (“educational character”): 40% – 60%	
Type and number of classes: lecture, 20 hours Language of instruction: English Specific characteristics of instruction: classes are based on student activity, interactivity, and collaboration	
Assessment method: presentation and term paper Specific characteristics of assessment: Presentation of the background, hypothesis, and results of the research based on the given dataset (possible to fulfill online). (40%) Submit a 10-15 page term paper describing the dataset, hypothesis, a short reasoning of the hypothesis, the applied methodology, the reasoning of the method, the results, the evaluation of the results, and robustness analysis. (60%)	
Placement in the curriculum: 4. semester	
Prerequisites:	
Course description and objectives	
The course aims to bridge theory and practice by addressing the missing links between them. We introduce a research framework that encompasses theory, concept building, formulation of research questions and hypotheses, data collection and design, and the application of appropriate econometric methods. A freely available international dataset will be provided for use throughout the course. It is essential that students engage only in research grounded in rigorous and widely accepted scientific methodology. The research questions should be of interest to the international academic community, allowing results to be compared with those of similar studies. Students will be required to use the dataset to test a set of well-formulated scientific hypotheses (2–4 hypotheses). Since binary and multinomial logit models will be discussed in detail during the course, students are expected to design their hypotheses so that one or more logit models can be applied for verification. While SPSS will be used for demonstration purposes, students are free to use any statistical software of their choice. Topics and content 1. Introduction of the dataset and review of related research. (Galambosné Tiszberger Mónika)	

2. Philosophy of research hypotheses: formulating null and alternative hypotheses, aligning data and statistical methods with the research problem (Galambosné Tiszberger Mónika) 3-5. Binary and multinomial logistic regression models: theory, estimation, model fit, and interpretation (Kehl Dániel) 6. Replication of results from a published paper to practice model building and interpretation (Galambosné Tiszberger Mónika)
Required and recommended readings
Required literature: Field, A. (2018): Discovering Statistics Using IBM SPSS Statistics. 5th edition. Sage (earlier editions are also suitable) Recommended literature: Békés, G. – Kézdi, G. (2021): Data Analysis for Business, Economics and Policy. Cambridge University Press Hair, J.F. Jr. – Black, W.C. – Babin, B.J. – Anderson, R.E. (2013): Multivariate Data Analysis, Seventh Edition, Pearson Creswell, J. W. (2018) Research design: Qualitative, quantitative and mixed methods approaches. 5th Ed. Thousand Oaks, CA: Sage Publications related for the applied dataset are specified in each semester

Competencies developed by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Understanding of research design, hypothesis formulation	Ability to apply statistical methods to real-world datasets	Commitment to rigorous, scientifically grounded research practices	Responsibility for producing scientifically valid and ethically sound research outcomes
Knowledge of binary and multinomial logistic regression models and their applications	Competence in using statistical software (SPSS or alternatives) for model building and interpretation	Openness to critical evaluation and comparison of research findings	Capacity to independently design and carry out empirical analyses

Specific learning outcomes to be achieved by the course

KNOWLEDGE	SKILLS	ATTITUDE	AUTONOMY AND RESPONSIBILITY
Formulates scientifically correct research questions and hypotheses	Interpret and critically assess empirical results	Demonstrates a critical and reflective approach to scientific research	Gains the ability to independently formulate and test research hypotheses using suitable econometric tools
Understands the logic and assumptions of binary and multinomial logistic regression	Develops the capacity to design and estimate regression models using a real-world dataset	Value and apply methodological rigor and transparency in empirical studies	Take responsibility for producing analyses that meet international research standards
Identifies and explains appropriate statistical methods for testing research hypotheses			