



## Process Innovation Management

<b>Course code</b>	<i>GRAI021</i>
<b>Compulsory in the programme</b>	<i>Innovations and Technology Management</i>
<b>Level of studies</b>	<i>Graduate</i>
<b>Number of credits</b>	<i>6 ECTS (32 contact hours + 2 consultation hours, 124 individual work hours)</i>
<b>Course coordinator (title and name)</b>	<i>Prof. Dr. Gurram Gopal</i>
<b>Prerequisites</b>	<i>Undergraduate Diploma</i>
<b>Language of instruction</b>	<i>English</i>

### THE AIM OF THE COURSE:

This course provides a modern theory of process innovation management, which is a competitive advantage for any organization. The aim of this course is to a) familiarize students with the principal operational processes and operational challenges faced by managers, and b) provide students with the language, concepts, and tools to manage these issues, with a particular emphasis on innovation and change management. Students are familiarized with conceptual analyses of business processes and methods for improvement in all major areas of operations, starting with operations planning, implementation, and control, and ending with operational improvements. During this course students will address the key themes of the subject material: relationship of strategy and process architecture, process flow measures and laws governing the process performance. The course is designed to enable students to develop a systems view on organizations, to build critical thinking skills by analyzing how those laws apply to current management issues, and to develop teamwork, problem solving, and written and oral academic communication skills. Also, this course aims to develop skills for modeling, analysis, and techniques for performance improvement of business processes through a simulation of a service organization.

### MAPPING OF COURSE LEVEL LEARNING OUTCOMES (OBJECTIVES) WITH DEGREE LEVEL LEARNING OBJECTIVES (See Annex), ASSESMENT AND TEACHING METHODS

<b>Course level learning outcomes (objectives)</b>	<b>Degree level learning objectives (Number of LO)</b>	<b>Assessment methods</b>	<b>Teaching methods</b>
CLO1. Develop critical thinking skills to assess an organization as a system of interrelated processes	LO1.1 LO1.3	In-class discussions Assignments Simulations Exams	Lectures, in-class discussions, guest speakers, simulations and games
CLO2. Develop a critical understanding of the main concepts, laws, and techniques of operations and business process management	LO1.1, LO1.2, LO1.3 LO3.1, LO3.2	In-class discussions Assignments Simulations Exams	Lectures, in-class discussions, guest speakers, simulations and games
CLO3. Develop and demonstrate the ability to apply these concepts, laws and techniques in business process modeling to organizational challenges	LO1.1, LO1.2, LO1.3 LO3.1, LO3.2	In-class discussions Assignments Simulations Exams	Lectures, in-class discussions, guest speakers, simulations and games
CLO4 Develop the skills to analyze business processes and process models and identify process drivers to improve performance of any business process	LO1.1, LO1.2, LO1.3 LO2.1, LO2.2 LO3.1, LO3.2	In-class discussions Assignments Simulations Exams	Lectures, in-class discussions, guest speakers, simulations and games
CL O5 Develop ability to synthesize process flow analysis, create process	LO1.1, LO1.2, LO1.3 LO3.1	Problem solving Simulations	Problem solving Simulations



improvements and present them			
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### Quality Assurance Measures

The lecturer assures a variety of teaching methods and timely feedback to students. The feedback from students will always be highly valued and appreciated. The course is designed to maximize active engagement by students in their own learning process and the successful achievement of the learning outcomes is dependent upon the quality of such engagement. Depending on the particular situation in class, this syllabus may be adjusted, in that case the students will be informed during lectures and via the e-learning notification system.

### Course content

Day	Topic	Contact Hours	
		Lecture	Practice
<b>May 24</b> 12:30-14:00	Introduction to the course. Organizational details of the course. Integration of Marketing, Finance and Operational strategies to optimize business performance.	1	1
<b>May 24</b> 14:15-15:45	The process view of organizations. Definition of a Process. What is Process Innovation? Competing on time.	1	1
<b>May 24</b> 16:45-18:15	Strategic positioning and operational effectiveness. Types of Process Innovation. Introduction to Business Process Management (BPM).	1	1
<b>May 24</b> 18:30-20:00	Core Elements of BPM. BPM Lifecycle. Business Process Reengineering and Continuous Improvement. Collaboration across the enterprise. Beer game.	1	1
<b>May 25</b> 09:00-10:30	Process efficiency measures. Process Strategies, Process Design. Production Process and Service Processes. Process flow time analysis. Little's Law. Levers for managing theoretical flow time. Production. Theoretical capacity. Process bottleneck. Factors affecting theoretical capacity. Capacity utilization. Levers for managing throughput.	1	1
<b>May 25</b> 10:45-12:15	Problems on Process Flow and Little's Law.	1	1
<b>May 25</b> 13:15-14:45	Service process and its performance. Make-to-order process analysis. Effect of variability on process performance. Optimal service level. Service process simulation. Inventory Order and control systems. Fixed quantity inventory management systems. EOQ. Levers for managing Inventories	1	1
<b>May 25</b> 15:00-16:30	Home assignment. Simulation Set up and Practice	1	1
<b>May 31</b> 12:30-14:00	Feedback on Interim Simulation results Assignment to be loaded on e-learning by 12:00	1	1
<b>May 31</b> 14:15-15:45	Business Process Reengineering – technology adoption	1	1
<b>May 31</b> 16:45-18:15	Continuous Process Improvement – Lean and Six Sigma. Lean Philosophy Concept.	1	1
<b>May 31</b> 18:30-20:00	Types of Lean Methodologies. DMAIC. Agile systems. Hot Dog Stand Lean Exercise in Class.	1	1
<b>June 1</b> 09:00-10:30	Six Sigma. Lean Six Sigma. Root Cause Analysis.	1	1
<b>June 1</b> 10:45-12:15	Integrating CI and BPR. Key Success Factors for Process Innovation.	1	1
<b>June 1</b> 13:15-14:45	Presentations of Final Simulation Results	1	1



Day	Topic	Contact Hours	
		Lecture	Practice
June 1 15:00-16:30	Presentations of Final Simulation Results	1	1
	<b>Total number of contact hours</b>	<b>16</b>	<b>16</b>

### FINAL GRADE COMPOSITION

Type of assignment	%
<b>Group Components 40%</b>	
In-class Beer Game simulation	5
In-class Hot Dog Exercise	5
Simulation - Interim	5
Simulation – Final Report and Presentation	25
<b>Individual Components 60%</b>	
Problems on Process Flow Analysis (Homework)	20
Final Exam	40
<b>Total:</b>	<b>100</b>

### DESCRIPTION AND GRADING CRITERIA OF EACH ASSIGNMENT

#### In-class Beer Game simulation

Students will play this game in teams. Attendance is required for participation. Student discussions will follow, accompanied by professor's feedback

#### In-class Hot Dog Game

Students will play this game in teams. Attendance is required for participation. Student discussions will follow, accompanied by professor's feedback. Students will submit their revised process which will form the basis for grading. Process improvements that deliver required performance will receive the highest marks.

#### Simulation - Interim

The purpose of this interim discussion is for students to demonstrate what they have learnt by playing a few iterations of the game and whether they understand the process flow. Each team will have ten minutes to present their results to the instructor. The professor's feedback will be provided during the discussion.

#### Simulation - Final

In this presentation student teams should demonstrate how they have optimized the strategy to achieve sustainable long-term performance. The presentation should be uploaded on e-learning presented to class on the final day based on the group presentation schedule. No late submission is accepted. The professor's feedback will be provided during the discussions. Marks are determined by the final results as well as the explanation behind the strategies.



### **Problems on Process Flow Analysis (Homework)**

This assignment has specified problems loaded onto the elearning system. Students are expected to solve them without collaboration with other students. The answers are to be loaded on the e-learning system by the due date and time. The marks are specified in the assignment.

### **Final Exam**

The final exam will be in a Multiple Choice Question format. There will be between 40 to 50 questions. Students are allowed to bring two pages of notes (both sides of one sheet of standard A4 paper). Calculators are allowed.

### **RETAKE**

The retake exam will replace the final exam marks. It will account for 40% of the overall marks for the course.

### **CHEATING AND PLAGIARISM PREVENTION**

Teaching and evaluation methods of the course favor learning and creativity as opposed to cheating. If the work of someone else (whether it is quoted or paraphrased) is not properly cited, that is plagiarism. In cases of cheating and plagiarism, the student(s) will be subject to the consequences outlined in The Code of Ethics of the university.

### **DEADLINES AND DETAILS**

Meeting deadlines and taking care of details are of extreme importance in the business world. Failure to do so can result in loss of job, promotions, clients, etc. Therefore, for each deliverable that is not turned in on time, a grade of "0" will be given. Elements of work that do not match the official requirements will be penalized, especially if there are repeated mistakes. Students are expected to always strive to do their best.

### **COMMUNICATION**

The students must use their official ISM e-mail to contact the lecturers and clearly indicate the **course name and the subject matter of the question** in the subject line of the e-mail. Whenever the students have to submit their work, their names must be clearly indicated on the document and the document must be properly formatted according to ISM requirements. The file names of e-mailed documents, such as the research project, must include the **students' last names**. It is very important that you follow these rules so your e-mails and submissions do not get lost.

### **REQUIRED READINGS**

1. Gopal, G., & Pilkauskaitė, E. (2020). Implementing process innovation by integrating continuous improvement and business process re-engineering. In Innovation Management. Edward Elgar Publishing. **This article will be provided to you.**
2. Anupindi R., et al. (2014). Managing Business Process Flows. Pearson. 344 p.
3. Jay Heizer, Barry Render, Chuck Munson (2017). Operations Management: Sustainability and Supply Chain Management (12th Edition). Copies are in the library.
4. John Jeston (2018). Business Process Management. Practical Guidelines to Successful Implementations.

### **ADDITIONAL READINGS**

1. Hsieh, Tony. (2010). Delivering Happiness: A Path to Profits, Passion, and Purpose. Grand Central Publishing.
2. Bossidy, L., Charan, R., & Burck, C. (2011). Execution: The Discipline of Getting Things Done. London: Random House Business Books.
3. Womack, J.P., Jones, D.T., and Roos, D. (1991). Machine that Changed the World: The Story of Lean Production, Harper Perennial
4. Liker J.K. (2004). The Toyota way fieldbook, (in Lithuanian: Toyota sėkmės kelias, 2006)