PROCESS INNOVATION MANAGEMENT

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| Course code | GRAI021 |
| Course title | Process Innovation Management |
| Type of course | Compulsory |
| Stage of study | Graduate |
| ECTS | 6; 16 hours of theory and 16 hours of practice in classroom, 128 hours of self-study, 2 hours consultation |
| Coordinating lecturer | Professor Gurram Gopal, PhD |
| Study form | Full time |
| Course prerequisites | Undergraduate diploma |
| Language of instruction | English |

Course description

This course provides a modern theory of process innovation management, which is a competitive weapon of any advanced organization. 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 develop 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.

Course aim

The aim of this course is to familiarize students with the principal operational issues that confront managers, and provide students with language, concepts, and tools to deal with these issues in order to gain competitive advantage through operations with a particular emphasis on innovation and change management. Also, this course aims to develop skills for modeling, analysis, and techniques for performance improvement of business processes through developing a consulting project for process improvement in the selected service or manufacturing organization.

**Learning outcomes**

On completion of this course successful students will:

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| **Course learning outcomes (CLO)** | **Learning methods** | **Assessment methods** |
| CLO1. Be able to operate the main concepts, laws, and techniques of business process management | Lectures, tutorials, exercises, examples, simulation, group project work | Simulation results and presentations, final examination, retake |
| CLO2. Have the ability to apply these concepts, laws and techniques in business process modeling | Lectures, tutorials, exercises, examples, simulation, group project work | Simulation results and presentations, final examination, retake |
| CLO3 Analyze the process models and control process drivers to improve performance of any business process | Lectures, tutorials, exercises, examples, simulation, group project work | Simulation results and presentations, final examination, retake |
| CLO4 Assess an organization as a system of interrelated processes | Lectures, tutorials, exercises, examples, simulation, group project work | Simulation results and presentations, final examination, retake |

### Quality assurance

Interactive teaching methods, interim knowledge assessment and self-evaluation, project work, seminars, and whole class discussions, individual and group work assignment will be employed to enhance the quality of studies. Lectures will consist of lectures, mini-case analysis, class discussions, group project work, article discussions, group presentations and individual final class exam.

# Course content

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| --- | --- | --- | --- | --- |
| **No** | **Topic** | **Class hours** | | **Readings**  **Chapters of MBPF** |
| **Theory** | **Practice** |
|  | Introduction to the course. Study groups formation. Introduction to Simulation.  The process view on organizations. Process innovation management and strategy. Strategic posit­ion­ing and operational effectiveness. Production process efficiency measures. Designing Operations. | 2 | 2 | 1, 2, 5 Supplement 5 |
|  | Production process flow time analysis. Levers for managing theoretical flow time. Production process flow rate and capacity analysis. Theoretical capacity. Process bottle­neck. Factors affecting theoretical capacity. Capacity utilization. Levers for managing throughput | 2 | 2 | 7, Supplement 7 |
|  | Supply Chain Management and Analytics. Inventory analysis. Theoretical inventory. Inventory cost. Inventory dynamics in batch purchasing. Economies of scale and optimal cycle inventory. Effect of lead times on ordering decisions. Inventory control systems. Inventory ABC and XYZ classification. Fixed quantity inventory management systems. Levers for managing Inventories | 2 | 2 | Chapter 11, Supplement 11,  12 |
|  | Managing process flow variability in case of uncertain demand. Safety inventory and service level. Inventory management under uncertain demand. Lead time demand variability. Pooling efficiency. Levers for reducing safety inventory. Simulation Practice | 2 | 2 | 12 |
|  | **Interim Simulation Results Discussion and feedback** | 2 | 2 |  |
|  | Service process and its performance. Make-to-order process analysis. Effect of variability on process perform­ance. Optimal service level. Service process simulation. Managing process flow variability. Single-channel models. Multi-channel model. Resource pooling. Make-to-order process improvement levers. Lean Operations. | 2 | 2 | 13,16 |
|  | **Presentations uploaded onto e-learning system before 8 a.m.** Managing process flow variability: process control and capability. Tools for process variability analysis: check sheets, Pareto principle, histograms, and run charts. Feedback control principle. Process control charts. Mean and range charts. Process capability. 6 sigma capability. | 2 | 2 | 6, Supplement 6 |
|  | **Final simulation presentations and feedback** | 2 | 2 |  |
|  | Total class hours (32): | 16 | 16 |  |

**Self-study and assessment**

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| --- | --- | --- |
| **Assignment** | **Number of self-study hours** | **Percentage of the total grade,%** |
| Interim Simulation presentation | 30 | 05 |
| Final Simulation presentation | 40 | 25 |
| Assignment | 15 | 20 |
| Final Project | 43 | 50 |
| **Total** | **128** | **100** |

# Assignments and evaluation

* + **Assignment**. This assignment is based on material covered during …….., and includes Chapters 1,2,5,7,11,12.

In Chapter 12, Inventory Management, in the textbook, answer the following:

Parker Hi-Fi-Systems case: Answer all questions.

Your answers should be in a Word document, easy to read, and posted on the e-learning system. **The assignment has to be uploaded onto e-learning system before 9 a.m …...**

* + **Simulation.** This simulation models a typical night at a Benihana Restaurant. The simulation runs through one demand cycle from 6:00 p.m. to 10:30 p.m. The objective is to enable students to apply the principles of operations management to enhance Benihana’s financial performance. Concepts such as throughput capacity, demand variability, utilization, and service time are applied in a service environment. Students have to design the bar and restaurant space, optimize dining time, use promotional resources, and manage other variables to improve performance. Students work in groups of 4 or 5 people. Details of the simulation will be presented in the first lecture.
  + **Simulation presentation and discussion.** On the assigned day students should deliver a 15 minutes PowerPoint presentation that demonstrates their application of the OM theory in the simulation. Each team will be cross-examined in the class. After all the teams have presented the whole class can discuss the simulation. **Presentations have to be uploaded onto e-learning system before 8 a.m. of ……..**
  + **Project.** Students will work in teams of 2 or 3 to implement the tools and methodologies learnt in the course. Details of the project and the evaluation system will be distributed during the first lecture. **Complete written project reports need to be uploaded on e-learning platform on …… by 6 pm.**
  + **Re-take exam.** Students who receive a failing final grade shall have the right to sit for an exam during the re-sit week, which will comprise 50 per cent of the final grade. Simulation presentations or assignment cannot be retaken at a later time.

# Course book

**Henzer et. al (2017).** Principles of Operations Management.

Copies are in the library.

# Additional reading

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)
5. Goldratt, E. and Cox, J. (1992). The Goal. North River Press, 2nd edition.
6. Harmon, P. (2007). Business Process change. Elsevier, Morgan Kaufman Publishers, 548 p.

**NOTE.** All the material will not be covered in detail during the lectures but will provide a basis for discussion and points of concerns.