

### თბილისის ჰუმანიტარული სასწავლო უნივერსიტეტი

**TBILISI HUMANITARIAN TEACHING UNIVERSITY**

**Syllabus**

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| **Name of the course/module** | **Operation Management** |
| **Code of the course** | **BUEENG004** |
| **Status of the course**  **(elective/compulsory)** | **Elective** course |
| **ECTS** | **5 credits.Total:125 hours**  Contact Hours–50hours (Class Meeting Time Period:15L/30Pr.) + 5 hours  (Midterms:2h and Final Examinations:3h)  Individual Work-51 hours |
| **Authors (lecturer)** | **Nino Samchkuashvili - Invited lecturer**  Phone: 593 36 43 25  E-mail: [ninosamchku@yahoo.com](mailto:ninosamchku@yahoo.com)  [Lecturer provides consultation hours for students based on schedule approved by the faculty dean, as well as consultations online;] |
| **Aim of the course** | * 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. Also, this course aims to develop skills for modelling, analysis, and techniques for performance improvement of business processes. |
| **Program prerequisites** |  |
| **Assessment system and criteria** | |  |  |  |  | | --- | --- | --- | --- | | **Assessment forms andcomponents** | | | | | **Assessment forms** | | | **Max score** | | **Midterm Assessment** | | | **60** | | **Final Assessment** | | | **40** | | **Assessmentcomponents** | **Number** | **Max Assessment of components** | **Max score** | | **Midterm Assessment** |  |  |  | | Case study | **10** | **2** | **20** | | Project presentation | **1** | **10** | **10** | | Discussion | **5** | **2** | **10** | | Midterm exam | 1 | 20 | **20** | | **Final exam** | **1** | **40** | **40** | |  | | | | | **Assessmentcriteria** | | | | | **Case study (20 points)**  (10X2=20 points) | | | | | **2** | Accurately describes a given business situation, analyzes, evaluates and establishes Causalrelationships in detail based on the knowledge gained; Draws appropriate conclusions; student is able to see the situation in a different light and give similar examples. | | | | **1,5** | Accurately describes a given business situation, analyzes, evaluates and establishes Causalrelationships in detail based on the knowledge gained; Draws appropriate conclusions; | | | | **1** | Accurately describes a given business situation, analyzes, evaluates and establishes cause-and-effect relationships in detail based on the knowledge gained; Draws appropriate conclusions; | | | | **0.5** | Accurately describes a given business situation, analyzes, evaluates and establishes cause-and-effect relationships in detail based on the knowledge gained; | | | | **0** | The student does not participate in the business situation analysis process. | | | | **Project presentation (10 point)** | | | | | Point | **(6 points) Criteria for evaluating the content of the project** | | | | **6** | The student perfectly demonstrates the ability to find and critically analyze information / data, uses the latest information, data and literature, brightly evaluates complex problems and formulates his / her original conclusios by analyzing and synthesizing problematic issues, setting optimal guidelines for problem solving. | | | | 5 | The student is very good at finding information / data analysis and critical analysis, using the latest information, data and literature, highly assessing complex problems and formulating his / her own conclusions by analyzing and synthesizing problematic issues. | | | | **4** | The student is well able to find and critically analyze information / data, uses the latest information, data and literature, makes complex problem assessments and formulates his / her own conclusions by analyzing and synthesizing problematic issues, and determines the optimal directions for solving the problem. | | | | 3 | The student satisfactorily demonstrates the ability to find and critically analyze information / data, uses the latest information, data and literature less, evaluates problems and forms his / her own conclusions by analyzing and synthesizing problematic issues, satisfactorily defining optimal directions for problem solving. | | | | 2 | The student is weak in the ability to find and critically analyze information / data, rarely uses the latest information, data and literature, evaluates problems, however, analyzes and synthesizes problematic issues, fails to form his own conclusions and does not determine the optimal direction to solve the problem. | | | | 1 | The student is not able to find and critically analyze information / data, does not use the latest information, data and literature, is unable to assess problems and is unable to formulate his / her own conclusions about problem solving. | | | | 0 | The student did not prepare project | | | | **Criteria for project presentation and discussion evaluation**  **(4 points)** | | | | | 4 | The student is very good at presenting and presenting the problem, discusses his / her conclusions and arguments brilliantly while participating in the discussion on the presentation topic, and perfectly defends his / her opinions. Demonstrates very good skills in delivering delivery techniques, including presentation materials. | | | | 3 | The student is well able to ask and present a problem, discusses his / her own conclusions and arguments while participating in a discussion on a presentation topic, and defends his / her own opinions well. Demonstrates good skills in delivering delivery techniques, including presentation materials. | | | | 2 | The student satisfactorily demonstrates the ability to ask and present a problem, discusses his / her own conclusions while participating in a discussion on a presentation topic, but lacks argumentation. Defends your own opinions. Satisfactorily demonstrates the skills of delivering delivery techniques, including presentation materials. | | | | 1 | The student is almost unable to identify and present the problem, having difficulty discussing his or her own conclusions and arguments while participating in a discussion on a presentation topic and defending his or her own opinions. At a low level, it demonstrates the ability to deliver delivery techniques, including presentation materials. | | | | 0 | The student is unable to identify and present a problem, is unable to discuss his / her own conclusions and arguments while participating in a discussion on a presentation topic, is unable to defend his / her own opinions. Fails to demonstrate skills in delivering delivery techniques, including presentation materials. | | | | **Discussion (10 points)**  **(**5X2 = 10) During the semester, the student will be interviewed orally 5 times, respectively, in oral surveys the student can earn a maximum of 10 points (5X2). The oral survey is conducted in the format of reports, discussions and Q&A | | | | | 2 | The student is well prepared, the answer is clearly and adequately formulated, his discussion is at a high level. It defends terminology | | | | 1 | The student is not well prepared, the answer is incompletely formulated, his discussion is fragmentary, and the terminology is flawed. | | | | 0 | The student is literally unprepared, the answer is vague and inadequate. His discussion is fundamentally wrong, he does not use terminology. | | | | **Mid term exam (20 points)** | | | | | Test (5X1 = 5 points) The test consists of 5 test assignments. The total number of points is equal to 5 | | | | | 1 | The answer is correct | | | | 0 | The answer is not correct | | | | Criteria for evaluating a theoretical issue (5X3) = 15 | | | | | 3 | The answer is complete. The student is thoroughly familiar with the past material, the issue is logically, consistently and adequately conveyed. Terminology is protected. Discussion and analysis are at a high level. | | | | 2 | The answer is complete. The student is satisfied with the material covered by the program. The issue is logically and adequately conveyed, though inconsistent. Terminology is protected. Discussion and analysis are satisfactory. | | | | 1 | The answer is short. The student has sufficient knowledge of the materials covered by the program, but there are some drawbacks. The issue is conveyed in part. Terminology is flawed. Discussion and analysis are fragmentary. | | | | 0 | The answer to the question is not relevant or not given at all. | | | | **Final exam (40 points)** | | | | | Criteria for evaluating a theoretical issue (8X3) = 24 | | | | | 3 | The answer is complete. The student is thoroughly familiar with the past material, the issue is logically, consistently and adequately conveyed. Terminology is protected. Discussion and analysis are at a high level. | | | | 2 | The answer is complete. The student is satisfied with the material covered by the program. The issue is logically and adequately conveyed, though inconsistent. Terminology is protected. Discussion and analysis are satisfactory. | | | | 1 | The answer is short. The student has sufficient knowledge of the materials covered by the program, but there are some drawbacks. The issue is conveyed in part. Terminology is flawed. The discussion and analysis of the fragment. | | | | 0 | The answer to the question is not relevant or not given at all. | | | | **Test (16X1 = 16 points)** | | | | | The test consists of 16 closed questions. The total number of points is equal to 16 | | | | | 1 | The answer is correct | | | | 0 | The answer is not correct | | | |
| **Course description** | **appendix1** |
| **Assessment system/activities, methods**  **and criteria** | **The assessment system has:**   Five types of positive assessment:  (A) Excellent – 91-100 points of rating  (B) very good – 81-90% of maximum assessment;  (C) Good– 71-80% of maximum assessment;  (D) Satisfactory – 61-70% of maximum assessment;  (E) Enough–51-60% of maximum assessment.  Two types of Negative assessment:  (FX) Fail After Supplementary Assessment – Maximum rate 41-50 points; which means, that student needs more time to take exam and is given the right to take exam repeatedly after independent work;  (F) Fail – Maximum rate 40 and less points, which means, that student’s work is not enough and he/she needs repeated study of the subject.  A student is eligible to take an additional exam in the same semester if he or she received an FX (41-50 - failed) grade; The interval between the final and additional exams in the subject must be at least 5 calendar days after the announcement of the final exam results.  The student who has accumulated at least 21 points in the mid-term assessments is given the right to take the final exam, and at least 20 points in case of the final assessment. |
| **Core literature:** | 1. William J. Stevenson , Operations Management. 12th edition, Published by McGraw-Hill Education, 2018. |
| **Additional literature** | 1. Roger G. Schroeder Susan Meyer Goldstein. Operations Management in the Supply Chain. 7th.Published by McGraw-Hill Education. 2018. |
| **Learning outcomes, competences**  **(general and field specific)** | **Knowledge and understanding**   * Define the terms operations management and supply chain; * Explain the importance of learning about operations management. * describe the historical evolution of operations management; * List several ways that business organizations compete. * Define the term productivity and explain why it is important to organizations and to countries. * Discuss the major considerations related to developing capacity alternatives. * Explain the strategic importance of process selection and the influence it has on the organization and itssupply chain. * Explain the importance of work design. * Describe TQM. * Describe the Six Sigma methodology. * Discuss the benefits and requirements of MRP. * Describe ERP, what it provides, and its hidden costs. * Explain the terms supply chain and logistics.   **Skills**   * operate the main concepts, laws, and techniques of business process management. * apply these concepts, laws and techniques in business process modelling. * analyse the process models and control process drivers to improve performance of any business process. * Prepare a linear trend forecast, trend-adjusted exponential smoothing forecast, moving average forecast, weighted-average forecast, exponential smoothing forecast, trend-adjusted exponential smoothing forecast; Compute and use regression and correlation coefficients. * Use a naive method to make a forecast; * Discuss several key issues in product or service design. * Discuss the two key issues in service design * Solve simple line-balancing problems. * Compare stopwatch time study and work sampling. * Discuss the advantages and disadvantages of specialization. * Use the techniques presented to evaluate location alternatives. * use the decision process for making location decisions. * Identify some of the main reasons organizations need to make location decisions. * Identify the determinants of quality. * List several strategic, tactical, and operational responsibilities related to managing the supply chain |
| **Learning/Teaching methods** | |  |  | | --- | --- | | **Learning/Teaching methods** | | | Lecture | ☒ | | Group work | ☒ | | Practical teaching | ☐ | | Lab work | ☐ | | Practice | ☐ | | Thesis/project | ☐ | | Consultation | ☒ | | (E-learning) | ☐ | | Independent work | ☒ | | **activities** | | | ☒ Discussion/debate ☐ (collaborative) ☐ problem based learning (PBL) ☒ Case study ☐ Brain storming☐ Role and situation game ☐ Demonstration methods ☒ inductive methods ☒ deductive methods ☒ analysis method ☒ synthesis methods ☒ verbal teaching method ☒ writing working methods ☒ Explanation methods ☒ active based teaching ☒ project presentation | | |  | | |

**appendix1**

**Course description:**

**Topics of the lecture, practical classes/laboratory work/working group, literature**

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| **Week №** | **Type of**  **the class** | **Topics** | **Contact hours** | **literature** |
| **Iweek** | Lect. | **Topic 1: Introductionto OperationsManagement**   * Production of Goods versusProviding Services; * Why Learn about OperationsManagement? * Process Management * Managing a Process to Meet Demand, * The Scope of Operations * Operations Management andDecision Making; * The Historical Evolution of Operations | **2** | **[1] – Ch 1** |
| Pract. | * Discussion/debate | **1** |  |
| **IIweek** | Lect. | **Topic 2: Competitiveness,Strategy, andProductivity**   * Competitiveness, Mission and Strategies,Operations Strategy, Implications of Organization Strategyfor Operations Management; Transforming Strategy into Action: The Balanced Scorecard; ProductivityComputing Productivity. | **1** | **[1] – Ch 2** |
| Pract. | * Case study (1) | **2** |  |
| **IIIweek** | Lect. | **Topic 3: Forecasting**   * Features Common to All Forecasts; * Elements of a Good Forecast; * Forecasting and the Supply Chain; * Steps in the Forecasting Process; * Forecast Accuracy; * Approaches to Forecasting, * Qualitative Forecasts * Forecasts Based on Time-Series Data; * Associative ForecastingTechniques; * Monitoring Forecast Error; * Choosing a ForecastingTechnique * Using Forecast Information; * Computer Software in Forecasting; | **1** | **[1] – Ch 3** |
| Pract. | * Case study (2) * Discussion (1) | **2** |  |
| **IVweek** | Lect. | **Topic 4: Product andService Design**   * Idea Generation * Legal and Ethical Considerations * Human Factors * Cultural Factors * Global Product and Service Design; * Environmental Factors: Sustainability; * Other Design Considerations: Strategies for Product or Service Life Stages * Phases in Product Design and Development; * Designing for Production; * Service Design * Operations Strategy | **1** | **[1] – Ch 4** |
| Pract. | * Case study (3) | **2** |  |
| **V week** | Lect. | **Topic 5: Strategic CapacityPlanning for Productsand Services**   * Capacity Decisions Are Strategic * Defining and Measuring Capacity, * Determinants of EffectiveCapacity; * Strategy Formulation; * Forecasting CapacityRequirements; * Additional Challenges of PlanningService Capacity; * Do It In-House or Outsource It? * Developing Capacity Strategies; * Constraint Management; * Evaluating Alternatives; * Operations Strategy | **1** | **[1] – Ch 5** |
| Pract. | * Case study (4) | **2** |  |
| **VIweek** | Lect. | **Topic 6: Process Selectionand Facility Layout**   * Process Selection; Technology, Process Strategy, * Strategic Resource Organization:Facilities Layout; * Designing Product Layouts: LineBalancing; * Designing Process Layouts; | **1** | **[1] – Ch 6** |
| Pract. | * Case study (5) * Discussion (2) | **2** |  |
| **VII week** | Lect. | **Topic 7: Work Design andMeasurement**   * Job Design; * Quality of Work Life, * Methods Analysis * Motion Study * Work Measurement * Operations Strategy | **1** | **[1] – Ch 7** |
| Pract. | * Discussion (3) | **2** |  |
| **VIII week** | **Midterm** | | 2 |  |
| **IX week** | Lect. | **Topic 8: Location Planningand Analysis**   * The Need for Location Decisions; * The Nature of Location Decisions * Global Locations * General Procedure for Making LocationDecisions; * Identifying a Country, Region; * Service and Retail Locations * Evaluating Location Alternatives | **1** | **[1] – Ch 8** |
| Pract. | * Case study (6) | **2** |  |
| **X week** | Lect. | **Topic 9: Managementof Quality**   * The Evolution of Quality Management; * The Foundations of Modern Quality Management: The Gurus; * Insights on Quality Management; * Quality Awards; * Quality Certification; * Quality and the Supply Chain; * Problem Solving, and ProcessImprovement | **1** | **[1] – Ch 9** |
| Pract. | * Case study (7) | **2** |  |
| **XI week** | Lect. | **Topic 10: AggregatePlanning andMaster Scheduling**   * Intermediate Planning in Perspective; * Basic Strategies for Meeting UnevenDemand; * Techniques for Aggregate Planning * Aggregate Planning in Services, * Disaggregating the Aggregate Plan; * Master Scheduling; * The Master Scheduling Process | **1** | **[1] – Ch 11** |
| Pract. | * Discussion (4) | **2** |  |
| **XII week** | Lect. | **Topic 11:MRP and ERP**   * An Overview of MRP; * MRP Inputs * MRP Processing * MRP Outputs * MRP in Services * Benefits and Requirements ofMRP; * MRP II; * Capacity Requirements Planning | **1** | **[1] – Ch 12** |
| Pract. | * Case study (8) | **2** |  |
| **XIII week** | Lect. | **Topic 12: JIT and LeanOperations**   * Characteristics of Lean Systems * Supporting Goals, * Building Blocks; * Lean Tools * Transitioning to a Lean System * Lean Services * JIT II * Operations Strategy | **1** | **[1] – Ch 14** |
| Pract. | * Case study (9) | **2** |  |
| **XIV week** | Lect. | **Topic 13: Supply ChainManagement**   * Trends in Supply Chain Management * Global Supply Chains * ERP and Supply ChainManagement, * Ethics and the Supply Chain * Small Business; * Management Responsibilities; * Procurement; * E-Business * Supplier Management * Inventory Management * Order Fulfillment * Logistics * Creating an Effective Supply Chain | **1** | **[1] – Ch 15** |
| Pract. | * Case study (10) | **2** |  |
| **XV week** | Lect. | **Topic 14: Scheduling**   * Scheduling Operations * Scheduling in Low-Volume Systems; * Scheduling Services; * Operations Strategy | **1** | **[1] – Ch 16** |
| Pract. | * Discussion (5) | **2** |  |
| **XVI week** | Pract. | **Project presentation** | **3** |  |
| **XVII-XVIII week** | **Final Exam** | | **3** |  |
| **XIX-XXweek** | **Additional exam** | |  |  |