|  |  |
| --- | --- |
| antalya bilim Ã¼niversitesi ile ilgili gÃ¶rsel sonucu | **ECTS Course Description Form** |
| **PART I ( Senate Approval)** |
| **Offering School**  | **Antalya Bilim University** |
| **Offering Department** | **Industrial Engineering** |
| **Program(s) Offered to** | Industrial Engineering | Compulsory |
| Other Engineering Departments | Elective |
|  |  |
| **Course Code**  | IE 361 |
| **Course Name** | Production Planning and Control |
| **Language of Instruction** | English |
| **Type of Course** | Lecture / Recitation /Comparison Study |
| **Level of Course** | 3rd Class |
| **Hours per Week** | **Lecture:** 3 hrs/week | **Laboratory:**  | **Recitation:**  | **Practical:**  | **Studio:** | **Other:** |
| **ECTS Credit** | 6 |
| **Grading Mode** | Letter Grade |
| **Pre-requisites** | **-** |
| **Co-requisites** | **-** |
| **Registration Restriction** |  |
| **Educational Objective** | At the end of this course, the student should be able to develop familiarity with current practices in production planning and control area and earn system thinking skills, both quantitative and qualitative, necessary to assess and solve problems encountered in production area. |
| **Course Description** | To introduce the fundamental concepts, tools and methods of production planning and control. The main topics are forecasting methods, aggregate production planning, inventory management concepts, static lot sizing models (Economic Order Quantity, Economic Production Quantity, Quantity Discounts), dynamic lot sizing models (Heuristics and Wagner-Whitin algorithm), inventory review policies, Master Production Schedule (MPS), Material Requirements Planning (MRP) and capacity planning.  |
| **Learning Outcomes**  | **LO1** | When this course has been completed the student will have developed knowledge and understanding of:The fundamental concepts of production planning and controlBuilding mathematical models to support PPC operationsSolving mathematical models to support PPC operationsThe complete order fulfillment process from customer request to deliveryStrategies to balance capacity with demand in production environments Hierarchical nature of production planning related problems and the importance of applying systems concept |
| **LO2** |
| **LO3** |
| **LO4** |
| **LO5** |
| **LO6** |
| **n..** |
| **PART II ( Faculty Board Approval)** |
| **Basic Outcomes (University-wide)** | **No.** | **Program Outcomes** | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **LO6** |
| **PO1** | **Ability** to communicate effectively and write and present a report in Turkish and English.  | 🗸 🗸 🗸 🗸 🗸 🗸🗸 🗸 🗸 🗸 🗸 🗸🗸 🗸 🗸 🗸 🗸 🗸🗸 🗸 🗸 🗸 🗸 🗸🗸 🗸 🗸 🗸 🗸 🗸🗸 🗸 🗸 🗸 🗸 🗸 |
| **PO2** | **Ability** to work individually, and in intra-disciplinary and multi-disciplinary teams. |
| **PO3** | **Recognition** of the need for life-long learning and **ability** to access information , follow developments in science and technology, and continually reinvent oneself. |
| **PO4** | **Knowledge** of forecasting, material requirements planning, aggregate planning, inventory management, forecasting. |
| **PO5** | **Awareness** of sectors and **ability** to prepare a business plan. |
| **PO6** | **Understanding** of professional and ethical responsibility and **demonstrating** ethical behavior. |
| **Faculty Specific Outcomes** | **PO7** |  |
| **PO8** |  |
| **PO9** |  |
| **PO10** |  |
| **PO11** |  |
| **PO12** |  |
| **Discipline Specific Outcomes (program)** | **PO13** |  |
| **PO14** |  |
| **PO15** |  |
| **PO16** |  |
| **PO17** |  |
| **PO18** |  |
| **Specialization Specific Outcomes** | **PO N….** |  |
| **PART III ( Department Board Approval)** |
| **Course Subjects, Contribution of Course Subjects to Learning Outcomes, and Methods for Assessing Learning of Course Subjects** | **Subjects** | **Week** |  | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **LO6** |
| **S1** | 1 | Introduction to Production Planning and Control | A1 |  |  |  |  |  |
| **S2** | 2-3 | Aggregate Production Planning | A1,A4 |  |  |  |  |  |
| **S3** | 4-5 | Inventory Management | A1,A4 |  |  |  |  | A6 |
| **S4** | 6-7 | Static Lot Sizing Models |  | A1,A4 |  |  |  | A6 |
| **S5** | 8-9 | Dynamic Lot Sizing Models |  | A1,A4 |  |  |  | A6 |
| **S6** | 10-11 | Inventory Review Policies |  |  | A1,A4 |  |  | A6 |
| **S7** | 12-13 | Master Production Schedule |  |  |  | A1,A4 |  | A6 |
| **S8** | 14 | Student Presentations |  |  |  |  | A1,A4 | A6 |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **Assessment Methods, Weight in Course Grade, Implementation and Make-Up Rules**  | **No.** | **Type** | **Weight** | **Implementation Rule** | **Make-Up Rule** |
| **A1** | **Exam** | 50% | 1 Midterm Exams1 Final ExamOpen book, closed notes.No electronic devices are allowed in the examinations except for calculators. | If a student misses an exam and provides an acceptable legitimate document, a make-up exam should be provided for at least one midterm. |
| **A2** | **Quiz** | - | - | - |
| **A3** | **Homework** | - | - | - |
| **A4** | **Project** | 35% | 2 submissionsA literature review on the chosen PPT topic and related applications | Late deliveries will be penalized by 20 points per day |
| **A5** | **Report** | - | - | - |
| **A6** | **Presentation** | 15% | 30 min presentation | - |
| **A7** | **Attendance/ Interaction** | - | - | - |
| **A8** | **Class/Lab./****Field Work** | - | - | - |
| **A9** | **Other** | **-** | **-** | **-** |
| **TOTAL** | **100%** |
| **Evidence of Achievement of Learning Outcomes** | Every topic is tested with at least one exam question. In order to pass, a student needs to accumulate certain percentage of points and this percentage is determined by the class mean. Students performed Microsoft Excel studies on course material and reported their work. |
| **Method for Determining Letter Grade** | The method on which the letter grade is based on will be announced at the beginning of the semester, and this method may be subjected to change depending on the performance of the students.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Assessment | Midterm 1 | Final 1 | Project | Presentation | TOTAL |
| Points | 20 | 30 | 35 | 15 | 100 |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total points | 100 - 95 | 94-90 | 89-85 | 84-80 | 79-75 | 74-70 | 69-65 | 64-60 | 59-55 | 54-45 |
| Letter Grade | A | A- | B+ | B | B- | C+ | C | C- | D+ | D |

 |
| **Teaching Methods, Student Work Load** | **No** | **Method** | **Explanation** | **Hours** |
| ***Time applied by instructor*** |
| **1** | **Lecture** | Lecturing and utilizing chalkboard/whiteboard. Sample questions and answers to strengthen learning. In class exams. | 2hrs weekly |
| **2** | **Interactive Lecture** | The instructor stops and asks students questions and encourages them to answer. | 1hr weekly |
| **3** | **Recitation** | Problems and solutions are demonstrated on chalkboard/whiteboard. | 2hrs weekly |
| **4** | **Laboratory** |  |  |
| **5** | **Practical** |  |  |
| **6** | **Field Work** |  |  |
| ***Time expected to be allocated by student*** |
| **7** | **Project** | The problem subject of the project is researched and a report along with a Microsoft Excel file are prepared. | 2hrs weekly |
| **8** | **Homework** | Answers of given questions are prepared at home. | 10hrs weekly |
| **9** | **Pre-class Learning of Course Material**  | New subjects are learned by reading course notes before class. | 0.5hrs weekly |
| **10** | **Review of Course Material** | Review of the subjects before exams in order to prepare. | 1hr weekly |
| **11** | **Studio** | - | - |
| **12** | **Office Hour** | Asking questions to instructor or to the teaching assistant out of class hour. | 2hrs weekly |
| **TOTAL** |  |
| **IV. PART** |
| **Instructor** | **Name** | Assist. Prof. Dr. Şenay Sadıç |
| **E-mail** | senay.sadic@antalya.edu.tr |
| **Phone Number** |  |
| **Office Number** |  |
| **Office Hours** |  |
| **Course Materials** | **Mandatory** | Nahmias S. Production and Operations Analysis. McGraw Hill/Irwin |
| **Recommended** |  |
| **Other** | **Scholastic Honesty** | Violations of scholastic honesty include, but are not limited to cheating, plagiarizing, fabricating information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Any for of scholastic dishonesty is a serious academic violation and will result in a disciplinary action. |
| **Students with Disabilities** | Reasonable accommodations are made for students with verifiable disabilities. |
| **Safety Issues**  | Safety of the classroom, the students and the instructor are maintained by the university policies and regulations. |
| **Flexibility** | Circumstances may arise during the course that prevents the instructor from fulfilling each and every component of this syllabus; therefore, the syllabus is subject to change.  Students will be notified prior to any changes.  |