| Industrial Engineering (English) | | | |
|---|---|---|---|
| Bachelor | TR-NQF-HE: Level 6 | QF-EHEA: First Cycle | EQF-LLL: Level 6 |

## Course Introduction and Application Information

| | |
|---|---|
| Course Code: | ISE303 |
| Course Name: | Production Planning and Control |
| Semester: | Fall |
| Course Credits: | ECTS: 6 |
| Language of instruction: | English |
| Course Condition: | |
| Does the Course Require Work Experience?: | No |
| Type of course: | Compulsory Courses |
| Course Level: | Bachelor \| TR-NQF-HE:6. Master`s Degree \| QF-EHEA:First Cycle \| EQF-LLL:6. Master`s Degree |
| Mode of Delivery: | Face to face |
| Course Coordinator: | Doç. Dr. EMRE ÇAKMAK |
| Course Lecturer(s): | Dr. Öğr. Üy. Emre Çakmak |
| Course Assistants: | |

### Course Objective and Content

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|---|---|
| Course Objectives: | The aim of this course is to provide the students for identifying, analyzing and solving problems such as demand forecasting, capacity determination, planning concept, planning strategies, long, medium and short term planning, scheduling master production plans, determining material requirements, demand planning and inventory optimization. |
| Course | Introduction / Operations and Productivity / Forecasting / Inventory Concept and types of |

| | |
|---|---|
| Content: | inventory / Inventory controlling methods / Aggregate Production Planning / Capacity Planning / Master Production Schedule / Material Requirements Planning & Problems / Quality Management / Location Decisions |

## Learning Outcomes

The students who have succeeded in this course;
1) Have information about production and operation concepts
2) Be able to make demand predictions
3) Be aware of inventory management, inventory concepts and types of inventory
4) Be able to determine order quantities in different conditions
5) Be able to execute master production schedules and material requirement plans used in companies

## Course Flow Plan

| Week | Subject | Related Preparation |
|---|---|---|
| 1) | Introduction | |
| 2) | Overview of Production Planning and Control | |
| 3) | Forecasting I | |
| 4) | Forecasting Fundamentals | |
| 5) | Inventory Management- Concept and types of inventory | |
| 6) | Inventory Management- Inventory controlling methods | |
| 7) | Inventory Management- Inventory controlling methods -II | |
| 8) | Aggregate Production Planning | |
| 9) | Aggregate Production Planning | |
| 10) | Capacity requirements planning (CRP) | |
| 11) | Distribution&Production Game | |
| 12) | Master Production Schedule | |
| 13) | Material Requirements Planning (MRP) | |
| 14) | Material Requirements Planning (MRP) Problems | |

## Sources

| | |
|---|---|
| Course Notes / | Heizer, J. H., Render, B., & Weiss, H. J. (2004). Operations management (Vol. 12). Pearson Prentice Hall. |

| | |
|---|---|
| Textbooks: | |
| References: | Buzacott, J. A., Corsten, H., Gössinger, R., and Schneider, H. M. (2012). Production Planning and Control: Basics and Concepts. Oldenbourg Wissenschaftsverlag. ISBN: 978-3486722475. |

## Course - Program Learning Outcome Relationship

| **Course Learning Outcomes** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| Program Outcomes | | | | | |

## Course - Learning Outcome Relationship

| No Effect | 1 Lowest | 2 Average | 3 Highest |
|---|---|---|---|
| | | | |

| | Program Outcomes | Level of Contribution |
|---|---|---|

## Assessment & Grading

| Değerlendirme Yöntemleri ve Kriterleri | Number of Activities | Level of Contribution |
|---|---|---|
| Quizzes | 1 | % 10 |
| Project | 1 | % 15 |
| Midterms | 1 | % 25 |
| Final | 1 | % 50 |
| **total** | | **% 100** |

## Workload and ECTS Credit Calculation

| Activities | Number of Activities | Preparation for the Activity | Aktivitede Harcanan Süre | Completing the Activity Requirements | Workload |
|---|---|---|---|---|---|
| Course Hours | 13 | 0 | 3 | | 39 |
| Application | 13 | 0 | 2 | | 26 |
| Project | 1 | 20 | | | 20 |
| Midterms | 1 | 20 | | | 20 |
| Final | 1 | 35 | | | 35 |

| | |
|---|---|
| **Total Workload** | **140** |