**The University of Jordan**
**School of Engineering**
**Industrial Engineering Department**
**2nd semester 2020/2021**

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| Course name: | Production Planning and Control | | | |
| Course code: | IE0906421 | | | |
| Credits hours | 3 | | | |
| Contact hours& room\office hours: | Sunday, Tuesday, Thursday (10:30-11:30)<br>Monday, Wednesday (8:30-10:00) | | | |
| Course instructor's name, E-mail, and phone: | Lina Al-Qatawneh<br>lqatawneh@ju.edu.jo<br>22932 | | | |
| Course Coordinator: | Lina Al-Qatawneh | | | |
| Text book: | Operations Management: Processes and supply chains. Krajewski, L., Ritzman, L. and Malhotra, M., Pearson Prentice Hall, 11th Edition, 2016. | | | |
| Other reference(s): | Operations Management: Sustainability and Supply Chain Management. Heizer, j., Render, B. and Munson, C., Pearson, 12th Edition, 2016 | | | |
| Course Description: | Strategic issues in designing production planning and control systems. Supply Chain Management, Forecasting, Inventory Management, Aggregate Planning, Master Production Scheduling, and Materials Requirements Planning. | | | |
| Providing Department: | Industrial Engineering | | | |
| Prerequisite Course: | Principles of Linear Algebra (IE0906305 | | | |
| Course type | Mandatory | | | |
| Assessment Methods: | Method | Weight % | Date | |
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| | Quizzes | 20 | | |
| | Mid Exam | 30 | | |
| | Final Exam | 50 | | |
| Course Learning Outcomes: | # | After successful completion of this course, the student will be able to | SO | |
| | CLO1 | Understand the general view of supply chains | 1,2 | |
| | CLO2 | Make forecasts in the manufacturing and service sectors using judgmental, causal, and time-series methods | 1,2 | |
| | CLO3 | Calculate the five basic measures of forecast errors and choose the best forecasting method for a service or product | 1,2 | |
| | CLO4 | Define the different types of inventory and the roles they play in supply chains | 1,2 | |
| | CLO5 | Use ABC analysis to identify the items deserving most attention and tightest inventory control | 1,2 | |
| | CLO6 | Apply selected inventory control systems for independent demand items | 1,2 | |
| | CLO7 | Define the key factors that determine the appropriate choice of an inventory control system | 1,2 | |
| | CLO8 | Use spreadsheets for sales and operations planning | 1,2 | |

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| | | CLO9 | Develop workforce and workstation schedules | 1,2 | |
| | | CLO10 | Develop a master production schedule (MPS) and compute available-to-promise quantities | 1,2 | |
| | | CLO11 | Apply the logic of a material requirements planning (MRP) system for dependent demand items | 1,2 | |
| | | CLO12 | Perform a case study project in designing production planning and control systems and communicate and present the results effectively | 2,3 | |

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| Brief list of topics | Week # | Topic |
| | 1-4 | Forecasting Demand |
| | 5-9 | Managing Inventories |
| | 10-11 | Planning and Scheduling Operations |
| | 12-15 | Efficient Resource Planning |

Important Notes:

- Do not hesitate to ask questions
- You are required to bring a notebook and take notes in classes.
- Students are expected to attend every class session and they are responsible for all material, announcements, schedule changes, etc., discussed in class.
- Discuss the assignments among yourselves
- Don't Cheat; direct copying of others work will NOT be allowed or tolerated and will result in a reduction of grade. If you are found to be cheating in any way, on an exam or assignment, even signing the roll sheet for another student, you will be given an "F" for the course. There will be no exceptions.
- All cases of academic dishonesty will be handled in accordance with university policies and regulations. JU policy requires the faculty member to assign ZERO grade (F) if a student misses 15% of the classes that are not excused, and 20% of the classes that are excused
- Students are expected to be ready to take a quiz any time they have a class. There will be no make-up quizzes or home works.
- Any students with disabilities who need accommodations in this course are encouraged to speak with the instructor as soon as possible to make appropriate arrangements for these accommodations.

| ***The B.Sc. in industrial Engineering program enables students to achieve, by the time of graduation the following program learning outcome (SOs)*** | |
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| *1* | *an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics* |
| *2* | *an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors* |
| *3* | *an ability to communicate effectively with a range of audiences* |
| *4* | *an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts* |
| *5* | *an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives* |
| *6* | *an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions* |
| *7* | *an ability to acquire and apply new knowledge as needed, using appropriate learning strategies* |