



Jordan University of Science and Technology
Faculty of Engineering
Civil Engineering Department

CE570 Engineering Projects & Construction Management

First Semester 2024-2025

Course Catalog

3 Credit Hours. 3 Credit hours (3 h lectures). The construction business and processes; project phases; managerial duties, responsibilities, and authorities; project planning: WBS, networking techniques, scheduling, resources profiling and leveling, cash flow projections and budgeting; project monitoring and directing, actual progress reporting, and updating the project plan; project control: earned value analysis of cost and schedule variance; evaluating performance and identifying areas of potential improvement; forecasting time and cost to complete and at completion; computer applications in project planning and control. Equipment: calculating equipment cost and estimating productivity, economic life, and process production cost; optimizing process production and production cost.

Teaching Method: Blended

Text Book

| | |
|--------------------------|-------------------------|
| Title | Construction management |
| Author(s) | Halpin |
| Edition | 5th Edition |
| Short Name | Ref # 1 |
| Other Information | |

Course References

| Short name | Book name | Author(s) | Edition | Other Information |
|------------|------------------------------------|-----------|-------------|-------------------|
| Ref # 2 | Project planning and scheduling | Harris | 4th Edition | |
| Ref # 3 | Construction equipment and methods | Purifoy | 8th Edition | |

Instructor

| | |
|-----------------|------------------|
| Name | Dr. Amin Almasri |
| Office Location | C5-L1 |

| | |
|--------------|--|
| Office Hours | Sun : 10:30 - 11:30 Sun : 12:30 - 13:30 Mon : 12:00 - 13:00 Tue : 10:30 - 11:30 Thu : 10:30 - 11:30 Thu : 12:30 - 13:30 |
| Email | ahalmasri@just.edu.jo |

| Class Schedule & Room | |
|---|--|
| Section 1: Lecture Time: Sun, Tue : 09:30 - 10:30 Room: DRNHALL | |

| Prerequisites | | |
|---------------|--|----------------------|
| Line Number | Course Name | Prerequisite Type |
| 233030 | CE303 Engineering Economy | Prerequisite / Pass |
| 234721 | CE472 Contracts, Specifications And Quantity Surveying | Prerequisite / Pass |
| 233710 | CE371 Building Construction | Prerequisite / Study |

| Tentative List of Topics Covered | | |
|----------------------------------|---|------------|
| Weeks | Topic | References |
| Week 1 | Introduction to project management | |
| Weeks 1, 2 | Project phases and the role of project manager in each phase | |
| Weeks 2, 3 | Project organization, reporting and communication | |
| Weeks 4, 5, 6, 7 | Project planning: WBS, networking, Gantt charts, and scheduling | |
| Weeks 7, 8 | Plan optimization: time-cost trade-off and resource leveling | |
| Weeks 8, 9 | Cash-flow analysis, budgeting, and financial requirements | |
| Week 10 | Overlapping (precedence) networks | |
| Week 11 | Updating project status | |
| Week 12 | Time and cost control: earned value analysis | |
| Weeks 13, 14 | Construction equipment: productivity, cost, and production cost | |
| Weeks 14, 15 | Process analysis and fleet size optimization | |

| Mapping of Course Outcomes to Program Outcomes | Course Outcome Weight (Out of 100%) | Assessment method |
|--|-------------------------------------|-------------------|
| Graduates will be able to understand the concept and the basics of project management. | 20% | |

| | | |
|--|-----|--|
| Graduates will be able to construct project schedules using bar charts and networks | 20% | |
| Graduates will be able to perform resource leveling and cash flow analysis | 20% | |
| Graduates will be able to update and control projects plans | 20% | |
| Graduates will be able to estimate construction equipment productivity and economic life | 20% | |

| Relationship to Program Student Outcomes (Out of 100%) | | | | | | | | | | | |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PI-1a | PI-2a | PI-2b | PI-2c | PI-2d | PI-3a | PI-4a | PI-4b | PI-5a | PI-6a | PI-6b | PI-7a |
| | | | | | | | | | | | |

| Evaluation | |
|-----------------|--------|
| Assessment Tool | Weight |
| Final Exam | 40% |

Date Printed: 2024-11-21