

King Fahd University of Petroleum & Minerals
College of Environmental Design
Construction Engineering & Management Department

**CEM 516 (071) – PROJECT RISK MANAGEMENT
COURSE SYLLABUS**

1. **Instructor:**
Dr. Mohammed Al Khalil
Office # 19/432
Office hours: Sundays & Tuesdays, 20:00-21:00
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2. Design: Elective Course
3. **Course (Catalog) Description**
Putting risk into perspective, risk and uncertainty, risk management system, decision theory, game theory, utility and risk attitude, multicriteria decision making models, simulation, risks and the construction project – money, time and technical risks, contracts and risks, Computer applications.
4. **Prerequisites(s)**
OM 502 or Equivalent, CEM 510, CEM 520
5. **Textbook(s) and or other required material**
 1. Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK Guide) 3rd Edition*, Chapter 11; Project Management Institute, 2004.
 2. Anderson, David; Sweeney, Dennis; Williams, Thomas *Quantitative Methods for Business*, 5th edition, West Publishing Company, 1992.
6. **Course objectives:**
After successfully completing the course, the students will be able to
 - Understand a project risk management system through which project risk can be identified, evaluated, and managed.
 - Understand tools and techniques to identify and assess project risk.

7. Topics Covered

- Overview of project risk management
- Risk management planning
- Project risk identification
- Qualitative risk analysis
- Quantitative risk analysis
- Risk response planning
- Risk monitoring & control
- Decision analysis
- Utility theory
- Simulation
- Multicriteria decision making models
- Risk management in construction projects

8. Class Schedule.

2 lectures per week, 75 minutes each.

9. Contribution of course to Meeting the professional component

Students learn theory of risk management as well as methods and techniques to identify, evaluate, and develop responses to project risk. Project risk is considered as a process that must continuously be monitored and controlled throughout the life of the project.

10. Relationship of Course to program outcomes

This course supports the following five program outcomes out of eleven outcomes required by ABET Criterion 3 for accrediting engineering program.

Outcome1: An ability to apply knowledge of mathematics, science, and engineering to the assessment of risk.

Outcome2: An ability to design a system, components or process to meet desired needs within realistic constraints such as economic, environmental, social political, ethical, health and safety, manufacturability and sustainability.

Outcome 3: An ability to function in multidisciplinary teams.

Outcome 4: An ability to identify, formulate, and solve engineering problems in the area risk management.

Outcome 5: An ability to communicate effectively.

Outcome 6: Recognition of the need for, and the ability to engage in life learning.

Outcome 7: An ability to use the techniques, skills, and modern engineering tools necessary for risk management practice.

11. Grade Distribution:

Assignments	30%
Article Presentation	05%
Midterm Exam	20%
Final Exam	35%
Paper/Project	10%