



## **Introduction Document Risk Management Course**

Course: Risk Management \_ BIM-RM \_Master of Qualification and specialization in Building Information Modeling Management - Prof. Fayez Ali Jrad

Number of sessions: 12 sessions

### **Chapter III**

Course summary: This course deals with managing the risks facing the business community and projects in competitive conditions, and presenting the concepts intertwined with the concept of risk. The focus is on the risks of construction projects to achieve the main objective of project risk management, which is to increase the probability and impact of positive events, and reduce the possibility and impact of negative accidents in the project by discussing how to develop a risk management plan, then determine the most important methods used to identify risks and how to measure risks by quantitative and qualitative methods, and connect to calculate the degree of importance of the risk and then move to the stage of defining the method of responding to those risks by mitigating, avoiding or transferring risks and other methods of response, and in the end it was necessary to determine how to monitor risks and in order to neglect occupational security and safety within the project environment, the risks of the work environment and the most important administrative procedures to mitigate work accidents were presented.

To ensure our understanding of the process of risk management using advanced technologies, the course dealt with the method of identifying and evaluating risks and dealing with them within the BIM environment, using Synchro to obtain the different scenarios and report the risk.

Material Code: BIM-RM

The classes: THIRD SESSION

Article chapters: 12

chapter number	Chapter title	Brief explanation
1	The concept and types of risks	- Defining the concept of risk, classifying risks, and then defining the concept of risk in construction projects.
2	Risk Management	- Defining risk management and the concepts intertwined with it, then defining the structure of risk management and identifying risk management tools and rules.
3	Construction project risk management	- Clarifying the risks of construction projects in a more accurate and comprehensive manner and answering a set of questions about why we use risk management analysis, who benefits from it, what its cost is, and whether it is suitable for all projects, and finally, addressing the intervention strategies.
4	Steps and methods for managing construction project risks	- Introducing the steps of risk management, identifying risks, defining the methods of quantitative and qualitative analysis of risk, clarifying how to introduce the element of risk into project objectives, and finally defining risk response strategies.
5	Managing the risks of the work environment in the organization	- Introducing the work environment and its impact on workers and the neighborhood, clarifying industrial risks and occupational diseases, and introducing administrative procedures to improve the level of occupational safety. As well as introducing the types of risks in public industries and ways to prevent them according to Osha and clarifying

		the safety and security requirements for buildings.
6	Risk Management System Principles (ISO 31000)	<ul style="list-style-type: none"> <li>- Introducing the ISO 31000 risk management system and explaining how to implement this system in the organization.</li> <li>- Risk Management and BIM Technology (Building Information Modeling)</li> </ul>
7	Risk Management and BIM Technology (Building Information Modeling)	<ul style="list-style-type: none"> <li>- Define the risk management process in a BIM (Synchro) environment, clarify potential risk scenarios, track tasks, real-time and planned, and obtain a risk report.</li> </ul>

#### Outcomes:

Learning Outcomes	Learning Outcomes	Homework (project)	Synchronous sessions	Exam
LO1	Understand and know the risk management strategy in the current business community.	√	√	√
LO2	Form a clear picture of the goal of risk management in business in general and projects in particular.	√	√	√
LO3	Develop a clear idea of the four main processes of risk management.	√	√	√
LO4	Understand the risks of his project, identify them, and minimize their negative effects.	√	√	√
LO5	Identification and assessment of risks and actions necessary for the successful implementation of a BIM project.	√	√	√
LO6	Integrate quality assurance with risk registers.	√	√	√
LO7	Devise solutions for complex and unpredictable situations and solve problems, for example disaster mitigation and recovery, risk forecasting.	√	√	√

### Evaluation Criteria:

Learning Outcomes	Evaluation Criteria To achieve the results, the student must demonstrate the capabilities in:
LO1	1 Understand the concept of risk 2- Understand the different classifications of risks 3- Understand the risks of construction projects 4- Recognize project risks using WBS method.
LO2	1- Understand the concept and origins of risk management 2- Understand the concepts involved in risk management 3- Understand the structure and organization of risk management and the role of the board of directors in the organization 4- Learn about risk management tools and rules
LO3	1- Understand the objectives and importance of risk management 2- Defining the beneficiary of risk management and its cost. 3- Defining roles and responsibilities in risk management
LO4	1- Defining the steps of the project risk management process 2- Gaining knowledge of ways to identify and identify risks 3- Designing risky questions 4- Quantitative risk analysis 5- Qualitative risk analysis 6- Designing risk reports 7- Apply the risk management identifier to a project
LO5	1- Defining the risks of the work environment in the organization and its impact on workers 2- Understand the most important industrial hazards and accidents 3- Acquire knowledge of administrative procedures to improve the level of occupational safety
LO6	1- Definition of ISO 31000 . Management System 2- Understand how to achieve an effective risk management system 3- Applying the ISO system to an institution
LO7	1- Defining project risks within the BIM environment  2- Learn how to enter the project risk register  3- Gain knowledge of quantitative and qualitative risk analysis using Synchro

	4- Identify potential risk scenarios
	5- Preparing the risk report and specific risk information

#### instructions:

Evidence generation: The student individually prepares a risk management plan for an institution or project and demonstrates his ability to understand the previous outcomes, and this is before taking the exam and deals with:

- Description of the organization and project
- Enterprise risk management plan
- Identification of Risks
- Risk Analysis
- Response to risks
- Preparing risk reports
- The student submits the plan through a systematically documented scientific presentation in an authentic manner.

#### REFERENCES

أولاً- المراجع العربية:

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- 2- خالد عبد العال، ادارة المخاطر باستخدام برنامج primavera Risk analysis ، 2018
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#### ENGLISH REFERENCES

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- Zou, P., Zhang G., Wang J-Y., 2006. Identifying Key Risks in Construction Projects: Life Cycle and Stakeholder Perspectives. Sydney: Faculty of Built Environment, University of New South Wales.

#### Virtual meetings:

Virtual meetings continue concurrently with simultaneous sessions and listen to all student requirements.