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Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
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### **Introduction Document Enterprise Maturity Analysis for BIM Course**

**Course:** Enterprise Maturity Analysis for BIM, Master of Qualification and Specialization in Building Information Modeling and Management - Dr. Sonia Selim Ahmed

Number of sessions: **12** sessions (2 hours)

Course summary:

BIM is a shareable collection of building data, the BIM model allows analyzing the current situation, solving the problems with information management using team-based collaboration between project participants and integrated project delivery, establishing Common Data Environment, and initiating use BIM-based procurement.

Nowadays many countries across the world are in different Stages of implementing BIM and adopting it into their legislation. Many efforts have been made by researchers and practitioners to set the BIM implementation criteria. In the other hand, if the current trend is not reversed as soon as possible, most countries will become less competitive in the global economy.

In addition, BIM implementation in design firms generally faces the lack of clarity in the adoption process, and there is a need for providing specific support services to firms who implement BIM. As the aim of the research is to identify needed next steps to systematic growth of BIM implementation for better and faster. Maturity models were investigated in order to be used as a scale to measure implemented steps at BIM implementation. Maturity refers to the aspects of BIM ability or quality of use and the features or fields for BIM implementation adopted a bibliometric analysis to identify the trends of BIM maturity studies, its models, and indicators for assessing BIM maturity. this book introduced a comprehensive BIM maturity that consists of BIM capability, BIM stages, BIM competency sets and a roadmap to achieve the main goal of BIM implementation; integrated project delivery.

The most typical BIM maturity measurement tools are more than 9, author found that the NNBIMS-CMM, BIMM and the BIM Proficiency Index are the most common tools.

Material Code: BIM-MA

The classes: C1, C2

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## Article chapters12:

chapter number	Chapter title	Brief explanation
1	BIM Maturity	<ul style="list-style-type: none"> <li>- BIM Maturity Indicators</li> <li>- Defining BIM maturity</li> <li>- BIM maturity models</li> <li>- Indicators for measuring BIM maturity</li> </ul>
2	The BIM Episodes 1	<ul style="list-style-type: none"> <li>- Part A: BIM boundaries</li> <li>- Part B: The Term itself</li> </ul>
3	The BIM Episodes 2+3+4	<ul style="list-style-type: none"> <li>- Focus on Modelling</li> <li>- Focus on Information</li> <li>- BIM Vs. Partial BIM</li> </ul>
4	EPISODE 5	<ul style="list-style-type: none"> <li>- BIM Data Sharing Methodologies</li> <li>- Digital Project – First Impressions</li> <li>- From 2d to 3d – A Sound Advice</li> </ul>
5	EPISODE 6+EPISODE 7+EPISODE 8	<ul style="list-style-type: none"> <li>- A Systematic Understanding of BIM</li> <li>- Understanding BIM Nodes (BIM Fields)</li> <li>- Understanding BIM Stages</li> </ul>
6	EPISODE 9	<ul style="list-style-type: none"> <li>- BIM Steps</li> <li>- BIM Adoption: Stages and Steps</li> <li>- Different Step Sets</li> <li>- Different Step Types</li> </ul>
7	Episode 10	<ul style="list-style-type: none"> <li>- Effects of BIM on Project Lifecycle Phases</li> <li>- The BIM Framework: An Academic Perspective</li> </ul>
8	EPISODE 11	<ul style="list-style-type: none"> <li>- The Difference Between BIM Capability and BIM Maturity</li> </ul>
9	EPISODE 12	<ul style="list-style-type: none"> <li>- BIM Performance Measurement</li> </ul>

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		<ul style="list-style-type: none"> <li>- Applicable Maturity Models and Tools</li> <li>- A quick focus on the NBIMS maturity effort</li> <li>- Limitations within the NBIMS I-CMM tool</li> <li>- The need for a comprehensive tool</li> </ul>
10	EPISODE 13	<ul style="list-style-type: none"> <li>- The BIM Maturity Index</li> <li>- Sample Performance Assessment – Executive Summary</li> </ul>
11	EPISODE 14	<ul style="list-style-type: none"> <li>- INDUSTRY LEADERSHIP VS. BIM BENEFITS</li> </ul>
12	EPISODE 15	<ul style="list-style-type: none"> <li>- Initiating A Collaborative BIM Project: A Sample Workflow</li> </ul>

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outcomes:

Learning Outcomes	Learning Outcomes	Homework (project)	Synchronous sessions	Exam
LO1	Provides the student with knowledge, concepts, and terminology related to building information modeling maturity.	√	√	√
LO2	The ability to determine in detail the benefits of applying a BIM maturity assessment in the organization to each of the project parties.	√	√	√
LO3	The ability to identify the most important areas of application of the concept of maturity of the BIM	√	√	√
LO4	The ability to understand the process of measuring the maturity of a simple project.	√	√	√
LO5	The ability to understand the mechanism of measuring the maturity of BIM in companies.	√	√	√
LO6	Understand the mechanism of applying the proposed measurement tools	√	√	√
LO7	Understand the mechanism of extracting results and classifying companies	√	√	√
L 08	The ability to understand the reality of the company to develop a detailed plan to develop performance in the field of BIM	√	√	√

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### Evaluation Criteria:

Learning Outcomes	Evaluation Criteria To achieve the results, the student must demonstrate the capabilities in:
LO1	1- It asks inquiry questions about the meaning of each term/concept and how it relates to reality. 2- He studies the theories and models related to the terms and concepts that were circulated in the lecture. 3- He writes down all the ideas he has seen in a special booklet that is easy to refer to when needed.
LO2	1- Presenting a working paper explaining one of the concepts of BIM maturity, maturity standards and tools, international applications, BIM maturity in Syria..etc.
LO3	1- He reviews the proposed project as a case study and raises questions about it. 2- He collects and categorizes information about his project considered as a case study. 3- He identifies the programs that serve him in his project. 4- He writes down the requirements and objectives of his project as a case study. 5- He reviews the available information about his project and completes the deficiencies in different ways.
LO4	1- He learns how to apply the maturity indicators within the proposed measurement methods to a company. 2- He reviews the information and data required to fill in the maturity matrix tables.
LO5	1- Matrix analysis.
LO6	1- Analyzing the reality of the company and arranging the results
LO7	1- Develop recommendations and an executive strategic plan for the company in the field of BIM

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### Instructions:

Generating Evidence: The student individually prepares a brief report in which he demonstrates his ability to understand the previous outcomes, and this is before he takes the exam and deals with:

- One of the topics suggested by the subject's teacher about one of the concepts explained within the course.

### References

- First - Arabic books:

The way to BIM - a guide for companies and individuals. Omar Selim, d. Sonia Ahmed. 2008.

- Second - foreign books:
  - BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors 2nd Edition. 2008. by Chuck Eastman (Author), Paul Teicholz (Author), Rafael Sacks (Author), Kathleen Liston (Author).
  - BIM for Design Firms: Data Rich Architecture at Small and Medium Scales 1st Edition. by François Lévy (Author), Jeffrey W. Ouellette (Author).
  - BIG BIM little bim, [https://www.bol.com/nl/nl/p/big-bim-little-bim/9200000014638179/#product\\_specifications](https://www.bol.com/nl/nl/p/big-bim-little-bim/9200000014638179/#product_specifications)
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### **Third - websites related to the course:**

- [Bimthinkspace.com](http://Bimthinkspace.com)
- <http://bimforum.pbworks.com/>
- <http://www.wbdg.org/>

**Virtual meetings:** The virtual meetings continue concurrently with the simultaneous sessions and listen to all the requirements of the students.