1. Basic Information

Program Tile	Architectural Engineering
Department offering the Program	Architectural Engineering
Department Responsible for the Course	Architectural Engineering
Course Title	Specifications, Quantities & Quality Control
Course Code	ARE7422
Year/ Level	Fourth Year – Second Semester
Specialization	Major
Authorization date of course specification	2005

Teaching Hours	Lectures	Tutorial	Practical
	2	2	0

2. Course Attributes:

No.	Attribute
05	Use the techniques, skills, and appropriate engineering tools, necessary for engineering practice and project management.
08	Consider the impacts of engineering solutions on society & environment.
09	Demonstrate knowledge of contemporary engineering issues.
10	Display professional and ethical responsibilities; and contextual understanding.
14	Adopt a holistic problem solving approach for complex, ambiguous, and open-ended challenges and scenarios

3. Intended Learning Outcomes (ILOs):

a. Knowledge and Understanding:

No.	Knowledge and Understanding
A_{03}	Characteristics of engineering materials related to the discipline.
A_{06}	Quality assurance systems, codes of practice and standards, health and safety requirements and environmental issues.
A_{07}	Business and management principles relevant to engineering.
A_{15}	Fundamentals of building acquisition, operational costs, and of preparing construction documents and specifications of materials, components, and systems appropriate to the building.
A_{16}	Theories and legislations of urban and regional planning.
A_{21}	The role of the architecture profession relative to the construction industry and the overlapping interests of organizations representing the built environment.

b. Intellectual Skills

No.	Intellectual Skills
B_{09}	Judge engineering decisions considering balanced costs, benefits, safety, quality, reliability, and environmental impact.
B_{15}	Predict possible consequences, by- products and assess expected performance of design alternatives.
B_{16}	Reconcile conflicting objectives and manage the broad constituency of interests to reach optimum solutions.

c. Professional Skills

No.	Professional Skills
C_{05}	Use computational facilities and techniques, measuring instruments, workshops and laboratory equipment to design experiments, collect, analyze, and interpret results.
C_{08}	Apply safe systems at work and observe the appropriate steps to manage risks.
C_{10}	Apply quality assurance procedures and follow codes and standards.
C_{12}	Prepare and present technical reports.
C_{15}	Use appropriate construction techniques and materials to specify and implement different designs.
C_{16}	Participate professionally in managing construction processes.
C_{20}	Provide leadership and education to the client particularly with reference to sustainable design principles.

D. General Skills

No.	General Skills
D_{03}	Communicate effectively.
D_{04}	Demonstrate efficient IT capabilities.
D_{06}	Manage tasks and resources efficiently.
D_{08}	Acquire entrepreneurial skills.
D_{09}	Refer to relevant literature effectively.

4. Course Contents:

No.	Topics
1	أولاً : اشتراطات العطاء (الشروط العامة ، العقد الهندسي).
2	الإشراف على التنفيذ ، الموقع العام للبناء.
3	التزامات المقاول ، الأضرار التى قد تلحق بالعمل.
4	سداد قيمة الأعمال للمقاول ومستحقاتة
5	تسليم الأعمال ، سحب او فسخ التعاقد
6	ثانياً : المواصفات الفنية (أعمال الحفر والردم والهيكل الخرساني)
7	أعمال المباني والعزل والبياض
8	أعمال الأرضيات والتكسيات و أعمال السلالم
9	أعمال الدهانات وأعمال النجارة (أبواب وشبابيك)
10	الأعمال المعدنية والأعمال الصحية

11	ثالثاً : أعمال الحصر والمقايسة
12	تطبيق على أعمال الحصر والمقايسة من خلال مثال تطبيقي

5. Teaching and Learning Methods:

5.1 Normal Students:

No.	Teaching Method	Choice
1	Lectures	√
2	Discussion Sessions	√
3	Information Collection from Different Sources	√
4	Practical	×
5	Research Assignment	√
6	Field Visits	√
7	Case Studies	√
8	Smart Sessions	√

5.2 Disable Students:

No.	Teaching Method	Reason
1	Presentation of the course in digital material.	Better access any time.
2	Web communication with students	Better communication with certain cases.
3	Asking small groups to do assignments; each composed of low, medium, and high performance students.	Knowledge and skills transfer among different levels of students.
4	Asking disabled students to do PowerPoint/Poster presentations.	Encouraging disabled students' engagement and interaction.

5.3 Excellent Students:

No.	Teaching Method	Reason
1	Developing course materials gradually to allow excellent students to receive teaching that meets their needs	Excellent students rely on excellent teaching
2	Encouraging students to participate in competitions with rewarded bonus marks.	Increasing excellent students' competitiveness

6. Student Assessment:

6.1 Student Assessment Methods:

No.	Assessment Method	Choice	ILOs
1	Mid Term Examination	√	A_{03}, A_{06}, A_{07}, B_{09}, B_{15}, B_{16}, C_{05}, C_{08}

			D_{03}, D_{04}
2	Oral Examination	×	-
3	Practical Examination	×	-
4	Semester work	√	A_{15}, B_{15}, B_{16}, C_{10}, C_{12}, D_{06}, D_{08}
5	Other types of assessment	×	-
6	Final Term Examination	√	A_{16}, A_{21}, B_{16}, C_{15}, C_{16}, C_{20}, D_{08}, D_{09}

6.2 Assessment Schedule:

No.	Assessment Method	Weeks
1	Mid Term Examination	8th
2	Oral Examination	×
3	Practical Examination	×
4	Semester work	Weekly
5	Other types of assessment	×
6	Final Term Examination	15th

6.3 Weighting of Assessments:

No.	Assessment Method	Weights
1	Mid Term Examination	10%
2	Oral Examination	-
3	Practical Examination	-
4	Semester work	20%
5	Other types of assessment	-
6	Final Term Examination	70%
Total		100%

7. List of References

No.	Reference List
1	إنشاء مباني – تكنولوجيا المباني - مهندس / محمد عبد الله
2	الموسوعة الهندسية لانشاء المباني - مهندس / محمد عبد الله
3	التفاصيل المعمارية - د.م / محمد حماد

8. Facilities Required for Teaching and Learning:

No.	Facility	Choice	No.	Facility	Choice
1	Lecture Classroom	√	7	Wireless Board	×
2	Lab Facilities	×	8	Presenter	√
3	White Board	√	9	Sound System	√
4	Data Show System	√	10	Wire-Internet	×
5	Visualizer	×	11	Wireless Internet	√
6	Smart Board	√	12	…	

9. Matrix of Knowledge and Skills of the Course:

No.	Topic	Attributes	Knowledge & Understanding	Intellectual Skills	Professional Skills	General Skills
1	اشتراطات العطاء	05, 08, 09	A_{03}, A_{06}, A_{07}, A_{15}	B_{09}	C_{05}, C_{08}, C_{10}, C_{12}, C_{15}	D_{03}
2	المواصفات الفنية	05, 08, 09	A_{07}, A_{15}, A_{16}, A_{21}	B_{09}, B_{15}	C_{15}, C_{16}, C_{20}	D_{03}, D_{04}
3	أعمال الحصر والمقايسة	10, 14	A_{16}, A_{21}	B_{16}	C_{16}, C_{20}	D_{06}, D_{08}, D_{09}

Course Coordinator: **Dr. Ahmed El-Tantawy El-Maadawy**

Head of Department: **Professor Dr. Mohammad Mohammad Taha Al-Azab**

Date of Approval: