**Course Specification**

**Course Code: PHM0101** **Course Title: Mathematics (1)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Depart. | | | |
| **Department offering the program** | Architecture Engineering Depart. | | | |
| **Department offering the course** | Engineering Mathematics and Physics department | | | |
| **Course Code** | PHM0101 | | | |
| **Year/level** | first year / (First Level) | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | 2 | 0 | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Use data analysis, objective engineering judgment, and simulation (AM1.1). |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| **Clo1** | Identify and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| **Clo2** | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| **Clo4** | solve and interpret data, assess by using statistical analyses to draw conclusions. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Derivatives and techniques of differentiation- introduction of conics | 1 |
| Trigonometric functions: properties, derivatives - Parabola | 2 |
| Chain rule, implicit, parametric differentiation- Parabola | 3 |
| Extreme, points of inflection, asymptotes and curve fitting-Parabola. | 4 |
| Indefinite integral and change of variables., Topics of parabola | 5 |
| Definite integral, Ellipse | 6 |
| Logarithmic and exponential functions: properties, derivatives and integrals-Ellipse | 7 |
| Logarithmic and exponential functions: properties, derivatives and integrals-Hyperbola | 8 |
| Integral of Trigonometric functions- Hyperbola | 10 |
| Definite integral and its applications to area, volumes, arc length and surface-Rotation of axes. | 11 |
| Definite integral and its applications to area, volumes, arc length and surface-Planes. | 12 |
| L'Hopital Rule-Planes | 13 |
| L'Hopital Rule- straight line. | 14 |
| Revision | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| **Clo1** | √ | - | - | - | - | - | - | - | √ | - | - | |
| **Clo2** | - | √ | - | - | - | - | - | √ | √ | - | √ | |
| **Clo4** | - | √ | - | - | - | - | - | √ | √ | - | √ | |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | **Clo1, Clo2,Clo4** |
| 3 | Discussions | - |
| 4 | Mid Term Exam | **Clo2** |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | **Clo2,Clo4** |
| 9 | Presentations | - |
| 10 | Quiz | **ClO2, Clo4** |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | Bi-weekly |
| 9 | Presentations | - |
| 10 | Quiz | 6 & 10 |
| 11 | Skiz | - |

### 7.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights |
|---|---|---|---|
| **Teacher Opinion** | Reports | 13.3% | 20 |
| | Quiz | 10% | 15 |

| | | | |
|---|---|---|---|
| | Mid-term exam | 26.6% | 40 |
| **Final Exam** | | 50% | 75 |
| **Total** | | 100% | 150 |

## 8. List of References

[1] I.A. Stegun & Milton Abramowitz, Handbook of Mathematical Functions: With Formulas, Graphs, and Mathematical Tables, Dover Publications Inc.; New edition 2022, ISBN-10 : 0486612724
[2] Sarhan M. Musa ,Fundamentals of Technical Mathematics , - Publisher : Elsevier - CopyRight :2015 -ISBN : 9780128019870
[3] Stewart. J, "Calculus", 6th Edition , 2008.
[4]Hamdy M. Ahmed, Mathematics (1), 2019, ISBN 978-977-469-0445
**[5]**George B. Thomas, Calculus, Edition, 2016
[6]James Stewart., Calculus, Edition, 2011, ISBN007-124429-8

## 9. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Lecture room equipped with e-learning tools (computer, mike, etc.) |
| Data show |

## 10. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Derivatives and techniques of differentiation- introduction of conics | 1 | **Clo1, Clo2** |
| Trigonometric functions: properties, derivatives - Parabola | 1 | **Clo1, Clo2, Clo4** |
| Chain rule, implicit, parametric differentiation- Parabola | 1 | **Clo1, Clo2** |
| Extreme, points of inflection, asymptotes and curve fitting- Parabola. | 1 | **Clo1, Clo2, Clo3, Clo4** |
| Indefinite integral and change of variables., Topics of parabola | 1 | **Clo1, Clo2** |
| Definite integral, Ellipse | 1 | **Clo1, Clo2, Clo3, Clo4** |
| Logarithmic and exponential functions: properties, derivatives and integrals-Ellipse | 1 | **Clo1, Clo2, Clo3, Clo4** |
| Logarithmic and exponential functions: properties, derivatives and integrals-Hyperbola | 1 | **Clo4** |
| Mid term | 1 | **Clo1, Clo2, Clo3, Clo4** |
| Integral of Trigonometric functions- Hyperbola | 1 | **Clo1, Clo2, Clo3** |
| Definite integral and its applications to area, volumes, arc length and surface- Rotation of axes. | 1 | **Clo1, Clo2, Clo3** |
| Definite integral and its applications to area, volumes, arc length and surface- Planes. | 1 | **Clo1, Clo2** |
| L'Hopital Rule-Planes | 1 | **Clo1, Clo2, Clo3, Clo4** |
| L'Hopital Rule- straight line. | 1 | **Clo1, Clo2, Clo3, Clo4** |

## 11. Matrix of Program LOs with Course LOs

| Program LOs | Course LOs |
|---|---|

| | | | |
|---|---|---|---|
| Plo1 | Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics. | **CLO 1** | Identify and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| | | **CLO 2** | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| Plo2 | Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions. | **CLO 4** | Solve and interpret data, assess by using statistical analyses to draw conclusions. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Eman Abdelaziz** | |
| **Head of Department** | **Ass.Prof. Dr. Reham Othman** | |
| **Date of Approval** | **07/10/2023** | |

برنامج الهندسة المعمارية
المعهد العالي للهندسة والتكنولوجيا
بالتجمع الخامس

**Course Specification**

**Course Code:** PHM0103 **Course Title: mechanics (1)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Department. | | | |
| **Department offering the program** | Architecture Engineering Department | | | |
| **Department offering the course** | Engineering Mathematics and Physics department | | | |
| **Course Code** | PHM0103 | | | |
| **Prerequisites** | None | | | |
| **Year/level** | First year / level 1 | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 2 | 0 | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Work efficiently to understand the principles of the mechanics and statics of particles, moments, Equilibrium's equations and solve any problem in a simple and logical manner. (AM1-1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO1 | Identify and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| CLO2 | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| CLO5 | Evaluate findings and use statistical analyses and objective engineering judgment. |

## 4. Course Contents

| Topics | Week |
|---|---|
| General principles , fundamental concepts **,** units of Measurements | 1 |
| Scalars and vectors, vector operations, vector addition of forces | 2 |
| Position vectors, force vector directed along line, Dot product and cross product | 3 |
| Moment of a force ( scalar formulation and vector formulation) | 4 |
| Moment of a couple, equivalent system, resultants of force and couple system | 5 |
| Equilibrium of a particle, condition for the equilibrium of a particle, the free body diagrams. | 6 |
| Coplanar force systems | 7 |
| Three- dimensional force systems | 8 |
| Condition for of a rigid boy in two dimensions, free Body diagrams, equations of equilibrium. | 10 |
| Equilibrium of a rigid body in three dimensions, free body diagrams, equations of equilibriums. | 11 |
| Simple trusses | 12 |

| | |
|---|---|
| Frames and machines Part 1 | 13 |
| Frames and machines Part 2 | 14 |
| General revision | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Debates | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO1 | √ | √ | - | - | - | | - | √ | √ | - | √ | |
| CLO2 | √ | √ | - | - | - | | - | √ | √ | - | √ | |
| CLO5 | √ | √ | - | - | - | | - | √ | √ | - | √ | |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | LOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO1, CLO2, CLO5 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | CLO1, CLO2 |
| 5 | Class works | CLO1, CLO2, CLO5 |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | CLO1, CLO2 |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | Weekly |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | Bi-weekly |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | 5 & 10 |
| 11 | Skiz | - |

### 7.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights |
|---|---|---|---|
| **Teacher Opinion** | Class works<br>Attendance | 10% | 10 |
| | Quiz | 10% | 10 |
| | Mid-term exam | 20% | 20 |
| **Final Exam** | | 60% | 60 |
| **Total** | | 100% | 100 |

## 8. List of References

[1] Russell Hibbeler, Engineering Mechanics: Dynamics 14th Edition, Pearson; 14th edition (March 31, 2015), ISBN-10 : 9780133915389

[2] Merle Potter , E. Nelson, Charles Best & W. G. McLean, Schaum's Outline of Engineering Mechanics Dynamics, McGraw Hill; 7th edition (February 1, 2021), ISBN-10 : 1260462862

[3] Engineering Mechanics: Statics (11th Edition) R.C. HIBBELER , 2008

[4]Engineering Mechanics: Statics (13th Edition) R.C. HIBBELER , 2010

## 9. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Lecture room equipped with e-learning tools (compute, mike, etc.) |
| data show |

## 10. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| General principles , fundamental concepts **,** units of Measurements | 1 | CLO1-CLO2 |
| Scalars and vectors, vector operations, vector addition of forces | 1 | CLO1-CLO2 |
| Position vectors, force vector directed along line, Dot product and cross product | 1 | CLO1-CLO2 |
| Moment of a force ( scalar formulation and vector formulation) | 1 | CLO1-CLO2 |
| Moment of a couple, equivalent system, resultants of force and couple system | 1 | CLO1-CLO2 |
| Equilibrium of a particle, condition for the equilibrium of a particle, the free body diagrams. | 1 | CLO1-CLO2 |
| Coplanar force systems | 1 | CLO1-CLO2 |
| Three- dimensional force systems. | 1 | CLO1-CLO2 |
| Condition for of a rigid boy in two dimensions, free body diagrams, equations of equilibrium.. | 1 | CLO1-CLO2- |
| Equilibrium of a rigid body in three dimension, free body diagrams, equations of equilibriums. | 1 | CLO1-CLO2 -CLO5 |

| | | |
|---|---|---|
| Simple trusses | 1 | CLO1-CLO2 -CLO5 |
| Frames and machines. | 1 | CLO1-CLO2- CLO5 |

## 11. Matrix of Program LOs with Course Los

| Program LOs | | Course Los | |
|---|---|---|---|
| PLO1 | Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics. | CLO 1 | Identify and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| | | CLO 2 | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| PLO2 | Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions. | CLO5 | evaluate findings and use statistical analyses and objective engineering judgment. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Wafaa Diab** | |
| **Head of Department** | **Associa. Prof. Reham Othman** | |
| **Date of Approval** | **07/10/2023** | |

برنامج الهندسة المعمارية
المعهد العالي للهندسة والتكنولوجيا
بالتجمع الخامس

**Course Specification**

**Course Code: PHM0102** **Course Title: Physics (1)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Department | | | |
| **Department offering the program** | Architecture Engineering Department | | | |
| **Department offering the course** | Engineering Mathematics and Physics department | | | |
| **Course Code** | PHM0102 | | | |
| **Year/level** | First Level/ (1st Semester) | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | 1 | 1 | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Use data analysis to understand Properties of matter: Units and dimensions, Physical mechanics, Potential energy gradient, Circular motion, Moment of inertia, Elastic properties of materials, Hydrostatics and surface tension, Hydrodynamics and viscosity. Geometrical optics: Refraction of light, Prisms, Reflection of light, Lenses, Lens aberration. (AM1.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO1 | Identify complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| CLO2 | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| CLO4 | Assess data by using statistical analyses to draw conclusions. |
| CLO5 | Evaluate findings by using statistical analyses and objective engineering judgment. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction, Units and dimension | 1 |
| Translational motion, Energy | 2 |
| Rotational motion | 3 |
| Moment of inertia | 4 |
| Elasticity of length, shape and volume | 5 |
| Energy stored in stretched wire , poison ratio, Bulk module's | 6 |
| Absolute pressure, surface tension | 7 |
| Capillarity and applications of surface tension | 8 |
| Viscosity | 10 |
| Bernoulli`s equation and its applications | 11 |

| | |
|---|---|
| Bernoulli`s equation and its applications | 12 |
| Types of lenses and image formed | 13 |
| Types of lenses, mirrors and image formed | 14 |
| Laboratory Exam | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO1 | √ | √ | √ | - | - | - | - | √ | √ | - | √ | - |
| CLO2 | √ | √ | √ | - | - | - | - | √ | √ | - | √ | - |
| CLO4 | √ | √ | √ | - | - | - | - | √ | √ | - | √ | - |
| CLO5 | √ | √ | √ | - | - | - | - | √ | √ | - | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO1, CLO2, CLO4, CLO5 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | CLO1, CLO2, CLO4, |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | CLO1, CLO2, CLO4, |
| 11 | Skiz | - |
| 12 | Practical Exam | CLO1, CLO2, CLO4, CLO5 |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | Weekly |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | - |

| | | |
|---|---|---|
| 9 | Presentations | - |
| 10 | Quiz | 6& 10 |
| 11 | Skiz | - |
| 12 | Practical Exam | 15 |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights |
|---|---|---|---|
| **Teacher Opinion** | Quiz | 7% | 10 |
| | Mid-term exam | 13% | 20 |
| **Practical** | Practical Attendance | 20% | 30 |
| | Lab. Reports | | |
| | Lab. Activities / Projects | | |
| | Final oral / practical exam | | |
| **Final Exam** | | 60% | 90 |
| **Total** | | 100% | 150 |

## 8. List of References

1- Raymond A. Serway, John W. Jewett . Physics for Scientists and Engineers (MindTap Course List) 10th Edition,Cengage Learning; 10th edition (January 1, 2018), ISBN-10 : 1337553271
2- Karl F. Kuhn, Frank Noschese, Jossey-Bass; Basic Physics: A Self-Teaching Guide, 3rd Edition (Wiley Self-Teaching Guides) 3rd edition (September 16, 2020) ISBN-10 : 111962990X
1-Halliday, David, Fundamentals of physics / David Halliday, Robert Resnick, JearlWalker.—9th ed., John Wiley & Sons Inc., New York, 2011.
2- Physics for Scientists and Engineers with Modern Physics, Ninth Editio Raymond A. Serway and John W. Jewett, Jr. USA2014.

## 9. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Lecture room equipped with e-learning tools (computer, mike,, etc.) |
| Data show |

## 10. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Introduction, Units and dimension | 1 | CLO1 |
| Translational motion, Energy<br>**Labs:** Practicing on measuring instruments (micrometer, and venire). | 1 | CLO1,CLO2 |
| Rotational motion<br>**Labs:** Practicing on measuring instruments (micrometer, and venire). | 1 | CLO1,CLO2 |
| Moment of inertia<br>**Labs:** Hook's Law | 1 | CLO1,CLO2 |

| | | |
|---|---|---|
| Elasticity of length, shape and volume<br>**Labs:** Hooks Law | 1 | CLO2 ,CLO4 |
| Energy stored in stretched wire , poisson ratio,Bulk modulu`s<br>**Labs:** Archimedes Principle | 1 | CLO2 ,CLO4 |
| Absolute pressure, surface tension<br>**Labs:** Archimedes Principle | 1 | CLO2 ,CLO4 |
| Capillarity and applications of surface tension<br>**Labs:** Surface tension | 1 | CLO2, CLO4 |
| Viscosity<br>**Labs:** Surface tension | 1 | CLO2, CLO4 |
| Bernoulli`s equation and its applications<br>**Labs:** Lenses | 1 | CLO2, CLO4 |
| Bernoulli`s equation and its applications<br>**Labs:** Lenses | 1 | CLO2, CLO4 |
| Types of lenses and image formed<br>**Labs:**revision | 1 | CLO4,CLO5 |
| Types of lenses, mirrors and image formed<br>**Labs:**Rivision | 1 | CLO4,CLO5 |
| Laboratory Exam | 1 | CLO1,CLO2 ,CLO4,CLO5 |

## 11. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO1 | Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics. | CLO 1 | Identify complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| | | CLO 2 | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| PLO2 | Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions. | CLO4 | Assess data by using statistical analyses to draw conclusions. |
| | | CLO5 | Evaluate findings by using statistical analyses and objective engineering judgment. |

| Title | Name | Signature |
|---|---|---|

| | | |
|---|---|---|
| **Course coordinator** | **Assoc. Prof. Rehab Ali** |  |
| **Head of Department** | **Assoc. Prof. Reham Othman** |  |
| **Date of Approval** | **07/10/2023** | |

# Annual Course Report

## (Academic Year 2023-2024)

## A- Basic Information

| | | | |
|---|---|---|---|
| **Title: Computer technology** | | **Code:** CSE0101 | |
| **Program(s) on which this course is given:** | | Architecture Engineering Dept. | |
| **Year/Level of program:** | | Prep. Year / First Level | |
| **Credit hours: 2** | | | |
| Teaching hours: Dr Enas Mahmoud Elgbbas | | | |
| Lectures: 2 | Tutorial: 1 | Practical: --- | Total: 3 |
| | | | |
| **Names of lecturers contributing to the delivery of the course** | | | |
| **Course coordinator:** | | Dr. Enas Mahmoud | |
| **External evaluator:** | | | |

## B- Statistical Information

| | | | | | |
|---|---|---|---|---|---|
| **No. Of students attending the course:** | | | **No. 154** | | **100%** |
| **No. Of students completing the course:** | | | **No. 145** | | **%94.2** |
| **Results:** | | | **Grading of successful students:** | | |
| | **No.** | **%** | | **No.** | **%** |
| **Passed** | 125 | 81.2% | **A+** | 6 | 3.9% |
| | | | **A** | 11 | 7.14% |
| | | | **A-** | 13 | 8.44% |
| | | | **B+** | 9 | 5.84% |
| | | | **B** | 6 | 3.9% |
| | | | **C+** | 10 | 6.5% |
| | | | **C** | 9 | 5.84% |
| | | | **D+** | 12 | 7.8% |
| | | | **D** | 9 | 5.84% |
| | | | **D-** | 40 | 25.97 % |
| **Failed** | 20 | 13% | **F** | 20 | 13% |
| **Absence** | 9 | 5.8% | | 9 | 5.8% |
| | | | | 154 | 100% |

## C- Professional Information

### 1–Course teaching:

**See appendix 1**

**Topics taught as a percentage of the content specified:**

| >90% √ | 70-90% | <70% |
|---|---|---|

**Reasons in detail for not teaching any topic:** None

| **If any topics were taught which are not specified, give reasons in detail:** | None |
|---|---|

## 2-Teaching and learning methods:

| Course learning Outcomes (LOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and |
| CLO 1 | √ | √ | | | | | | √ | √ | | | |
| CLO 9 | √ | √ | | | | | | √ | √ | | | |
| CLO16 | √ | | √ | √ | | | | √ | √ | | | √ |

## 3- Student assessment:

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Reports / sheets | 40% | 40 | 5% | 5 |
| | Quizzes | | | %5 | 5 |
| | Mid-term exam | | | %20 | 20 |
| **Practical** | **Practical Exam** | | | %10 | 10 |
| **Final Exam** | Written exam | 60% | 60 | | |
| **Total** | | 100 | 100 | | |

## 4- Facilities and Teaching Materials:

| | |
|---|---|
| Lecture/Classroom | √ |
| White board | √ |

## 5-Administrative constraints

| **List any difficulties encountered:** | NA |
|---|---|

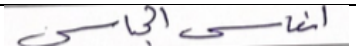
| **6-Student evaluation of the course:** | **Response of course team** |
|---|---|
| **(92.9%) Look to Appendix 2** | Student Questionnaire% has been discussed in department council to take the necessary action |

## 7-Comments from Internal/external evaluator(s):

| | | | |
|---|---|---|---|
| Please look to Appendix 3 in program specification | | | |
| **8-Course enhancement:** | | | |
| **Progress on action side notified in the previous year's action plan:** | | | None |
| **Actions required** | **Completion date** | **Person responsible** | **Status** |
| **None** | | | |
| **Action State whether or not completed and give reasons for any none-completion:** | | | None |

**9-Action plan for academic year 2024-2025**

| Actions required | Completion date | Person responsible |
|---|---|---|
| None | | |

| | |
|---|---|
| **Course coordinator:** | Dr. Enas Mahmoud |
| **Signature:** |  |
| **Date:** | **2023/2024** |

# Appendix (1) progress sheet

| Week No. | Date | Topics | Lecture | Tutorial | Practical | Total |
|---|---|---|---|---|---|---|
| **1** | 02/10/2023 | **Computer hardware:** Types of Computers, Central Processing Unit**,** Arithmetic and logic unit, and Control unit. | 2 | 1 | | 3 |
| **2** | 09/10/2023 | **Computer hardware:** Input devices- output devices. | 2 | 1 | | 3 |
| **3** | 16/10/2023 | **Computer hardware:** Memory types- Registers. | 2 | 1 | | 3 |
| **4** | 23/10/2023 | **Number systems:** Decimal- Binary- Octal -Hexadecimal numbers. Conversion from any number system to any number system. Addition in binary system | 2 | 1 | | 3 |
| **5** | 30/10/2023 | **Number systems:** Negative numbers in binary system one's and two's complement – sign magnitude. Subtraction in binary system | 2 | 1 | | 3 |
| **6** | 06/11/2023 | **Introduction to C programing language:** Variable types**,** Write an equation**,** Input and output commands, and flow charts. | 2 | | 1 | 3 |
| **7** | 15/11/2023 | **Midterm Exam** | | | | |
| **8** | 20/11/2023 | **C programing language:** Decision making (if-else rule) | 2 | | 1 | 3 |
| **9** | 27/11/2023 | **C programing language:** Loops (for - while rules), and nested loops | 2 | | 1 | 3 |
| **10** | 04/12/2023 | **C programing language:** Write different programs. Find and correct the errors in a program. Find the output of | 2 | | 1 | 3 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | any program. | | | | |
| **11** | 11/12/2023 | **Introduction to network:** Network classifications according to the network media, architecture, size and topology. | 2 | 1 | | 3 |
| **12** | 18/12/2023 | **Multimedia**: (images – videos- Audio) | 2 | 1 | | 3 |
| **13** | 25/12/2023 | **Practical Exam** | | | | |
| **14** | 14/01/2024 | **Final Exam** | | | | |

# Appendix (2) Survey Results

## ← تكنولوجيا الحاسبات

1. أراء عامه حول المقرر الدراسي

| 5 | 4 | 3 | 2 | 1 | 0 | | 0 |
|---|---|---|---|---|---|---|---|
| 59.83 | 15.38 | 6.84 | 7.69 | 4.27 | 5.98 | التشويق | 1 |
| 58.12 | 19.66 | 5.13 | 8.55 | 5.13 | 3.42 | ارتباطه بالتخصص | 2 |
| 57.26 | 17.95 | 7.69 | 7.69 | 5.98 | 3.42 | معلومات حديثة | 3 |
| 57.26 | 17.95 | 6.84 | 8.55 | 5.13 | 4.27 | توقعاتي | 4 |
| 58.12 | 15.38 | 7.69 | 8.55 | 6.84 | 3.42 | التطبيق العملي | 5 |
| 57.26 | 18.8 | 5.13 | 8.55 | 6.84 | 3.42 | مفهوم | 6 |
| 55.56 | 20.51 | 6.84 | 8.55 | 4.27 | 4.27 | عموما | 7 |
| 57.63 | 17.95 | 6.59 | 8.3 | 5.49 | 4.03 | | |

جاءت نسبه الموافقه علي المقرر الدراسي بنسبه 82.17%

2. مخرجات التعليم المستهدفه

| موافق تمام | موافق | إلى حد ما | غير موافق | غير موافق تمام | | 1- |
|---|---|---|---|---|---|---|
| 42.37 | 35.59 | 16.1 | 0 | 5.93 | المقرر له أهداف واضحة ومعلنة | 8 |
| 42.37 | 35.59 | 16.95 | 1.69 | 3.39 | المقرر يزودني بالمعرفة المفيدة والفهم المتعمق للموضوع | 9 |
| 42.37 | 38.14 | 16.1 | 0 | 3.39 | المقرر يحفزني على التفكير | 10 |
| 43.22 | 38.14 | 15.25 | 0 | 3.39 | أكسبني المقرر بعض المهارات المهنية التي تفيد في الحياة العملية | 11 |
| 42.37 | 35.59 | 16.1 | 0 | 5.93 | | |

جاءت نسبه الموافقه علي مخرجات التعليم المستهدفه بنسبه 94.06%

3. المحاضرات

| 42.86 | 36.97 | 14.29 | 1.68 | 4.2 | يتم تقديم المحاضرات وفقًا لمواعيد الجداول المحددة والمعلنة | 12 |
|---|---|---|---|---|---|---|
| 45.38 | 33.61 | 16.81 | 0.84 | 3.36 | تساهم المحاضرات في تفهم موضوع المقرر | 13 |
| 45.38 | 36.13 | 14.29 | 0 | 4.2 | تغطي المحاضرات كل الموضوعات التي اشتملت عليها قائمة محتوياته | 14 |
| 42.86 | 37.82 | 13.45 | 1.68 | 4.2 | يتم تقديم المحاضرات بأسلوب شائق | 15 |
| 44.54 | 36.13 | 14.29 | 0.84 | 4.2 | تضمنت المحاضرات المشاركة من جانب الطالب | 16 |
| 42.86 | 39.5 | 12.61 | 0.84 | 4.2 | اشتملت المحاضرات على حالات عملية | 17 |
| 42.86 | 37.82 | 15.13 | 0.84 | 3.36 | مقدار المعلومات المقدمة في المحاضرات مناسب | 18 |
| 42.86 | 37.82 | 13.45 | 1.68 | 4.2 | كتاب المقرر )أو المذكرة( يعتبر مناسب | 19 |
| 43.7 | 36.98 | 14.29 | 1.05 | 3.99 | | |

جاءت نسبه الموافقه علي المحاضرات بنسبه 94.97%

4. المحاضر

| 42.28 | 37.4 | 15.45 | 0.81 | 4.07 | يلتزم المحاضر دائما بمحتويات المقرر | 20 |
|---|---|---|---|---|---|---|
| 41.46 | 39.02 | 13.01 | 3.25 | 3.25 | يلتزم المحاضر دائما بمواعيد بدء وإنتهاء المحاضرة | 21 |
| 42.28 | 37.4 | 16.26 | 0 | 4.07 | أشعر بأن المحاضر دائما مستعد جيدا للمحاضرة | 22 |
| 43.09 | 38.21 | 13.82 | 0.81 | 4.07 | يعالج المحاضر موضوعات المقرربعمق | 23 |
| 43.09 | 37.4 | 15.45 | 0 | 4.07 | يشجع المحاضر الطالب على ألسئلة والتعبير عن وجهة نظرهم | 24 |
| 40.65 | 42.28 | 13.01 | 0 | 4.07 | يستثمر المحاضر وقت المحاضرة في التدريس الفعلي | 25 |
| 43.9 | 36.59 | 15.45 | 0.81 | 3.25 | يبدو المحاضر ذو معرفة عالية بموضوع المقرر | 26 |
| 40.65 | 39.84 | 13.82 | 0.81 | 4.88 | يحافظ المحاضر على جذب إنتباهي | 27 |
| 43.09 | 37.4 | 14.63 | 0.81 | 4.07 | يعامل المحاضر الطالب بإحترام | 28 |
| 41.46 | 39.84 | 13.01 | 2.44 | 3.25 | يقدم المحاضر أمثلة وحالات عملية فعالة | 29 |
| 42.2 | 38.54 | 14.39 | 0.97 | 3.9 | | |

جاءت نسبه الموافقه علي المحاضر بنسبه 92.13%

5. عضو الهيئه المعاونه

| 43.55 | 34.68 | 16.13 | 0.81 | 4.84 | يعتبر دور الهيئة المعاونة فعالا | 30 |
|---|---|---|---|---|---|---|
| 44.35 | 35.48 | 15.32 | 1.61 | 3.23 | عضو الهيئة المعاونة دائما على استعداد للرد على أي استفسارات | 31 |
| 43.55 | 36.29 | 15.32 | 0.81 | 4.03 | يبدو عضو الهيئة المعاونة ملما بموضوعات المقرر | 32 |
| 42.74 | 38.71 | 13.71 | 0 | 4.84 | يوفر عضو الهيئة المعاونة لنا التطبيقات الكافية | 33 |
| 45.97 | 33.06 | 16.13 | 0.81 | 4.03 | يقدم عضو الهيئة المعاونة المساعدة لكل طالب عند الحاجة لذلك | 34 |
| 44.03 | 35.64 | 15.32 | 0.81 | 4.19 | | |

جاءت نسبه الموافقه علي عضو الهيئه المعاونه بنسبه 94.99%

6. نظام التقويم

| 43.55 | 37.1 | 13.71 | 0.81 | 4.84 | يعتبر جدول االمتحانات مناسب | 35 |
|---|---|---|---|---|---|---|
| 46.77 | 34.68 | 12.9 | 2.42 | 3.23 | يتم االعالن عن مواعيد االمتحانات مبكر | 36 |
| 45.97 | 34.68 | 14.52 | 0.81 | 4.03 | يعتبر عدد إمتحانات أعمال الفصل مناسب | 37 |
| 41.94 | 40.32 | 12.9 | 1.61 | 3.23 | تتصف االمتحانات بالموضوعية | 38 |
| 42.74 | 39.52 | 13.71 | 0.81 | 3.23 | الوقت المخصص لإلمتحان مناسب | 39 |
| 40.32 | 41.94 | 12.9 | 1.61 | 3.23 | تغطي االمتحانات محتويات المقرر | 40 |
| 44.35 | 36.29 | 15.32 | 0.81 | 3.23 | تركز االمتحانات على الجوانب الفكرية والعملية في المقرر | 41 |
| 42.74 | 37.9 | 14.52 | 0.81 | 4.03 | تعتبر اللغة المستخدمة في االمتحانات واضحة ومفهومة | 42 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 43 | لا تتضمن إلمتحانات أخطاء مطبعية | 4.84 | 0 | 12.9 | 37.9 | 44.35 |
| 44 | يتصف توزيع الدرجات المقررة بالعدالة | 3.23 | 1.61 | 14.52 | 37.9 | 42.74 |
| | | 3.71 | 1.13 | 13.79 | 37.82 | 43.55 |

جاءت نسبه الموافقه علي نظام التقويم بنسبه 95.16%

7. المعامل والورش

| | | | | | | |
|---|---|---|---|---|---|---|
| 45 | يتوافر بالكلية معامل كافية لتحقيق أهداف العملية التعليمية | 4.8 | 1.6 | 17.6 | 32.8 | 43.2 |
| 46 | يوجد بالمعامل االجهزة والمعدات الحديثة | 4 | 1.6 | 16.8 | 36.8 | 40.8 |
| 47 | يتصف تصميم المعامل بالجاذبية والمالءمة | 4 | 1.6 | 16.8 | 35.2 | 42.4 |
| 48 | يتصف الفنيون بالمعامل بالكفاءة العالية | 4 | 1.6 | 16 | 36 | 42.4 |
| 49 | تعتبر المساحة المتاحة للمعامل مناسبة لعدد الطالب | 4 | 0.8 | 18.4 | 33.6 | 43.2 |
| 50 | تعتبر الورش المتاحة مجهزة بالمعدات الحديثة | 4.8 | 0 | 17.6 | 37.6 | 40 |
| 51 | تتناسب مساحة الورش مع أعداد الطالب | 4.8 | 0 | 18.4 | 35.2 | 41.6 |
| 52 | يتصف الفنيون العاملون بالورش بالكفاءة العالية | 4 | 0.8 | 17.6 | 35.2 | 42.4 |
| | | 4.3 | 1 | 17.4 | 35.3 | 42 |

جاءت نسبه الموافقه علي المعامل والورش بنسبه 94.7%

8. المدرجات وقاعات التدريس

| | | | | | | |
|---|---|---|---|---|---|---|
| 53 | الموقع | 5.56 | 0 | 15.08 | 37.3 | 42.06 |
| 54 | الحجم | 4.76 | 0.79 | 14.29 | 39.68 | 40.48 |
| 55 | عدد المقاعد/ البنشات | 3.17 | 1.59 | 15.08 | 36.51 | 43.65 |
| 56 | تسهيالت التدريس المتاحة) السبورة البيضاء/ البروجيكتور/ داتاشو..( | 3.97 | 0.79 | 15.87 | 37.3 | 42.06 |
| 57 | الهدوء | 3.17 | 0.79 | 15.08 | 39.68 | 41.27 |
| 58 | إلضاءة | 3.17 | 1.59 | 16.67 | 37.3 | 41.27 |
| 59 | النظافة | 3.17 | 1.59 | 15.08 | 37.3 | 42.86 |
| | | 3.85 | 1.02 | 15.31 | 37.87 | 41.95 |

جاءت نسبه الموافقه علي المدرجات وقاعات التدريس بنسبه 95.24%

التعليق علي الاستبيان:

- جاءت نسبه الموافقه علي المقرر الدراسي بنسبه 92.92%

# Appendix (3) Comments from Internal/external evaluator(s)

| | | |
|---|---|---|
| | **Ministry of Higher Education**<br>**Higher Institute of Engineering and Technology**<br>**Architecture Eng. Department** | |

**Course Specification**

**Course Code: MCE 0101** **Course Title: Engineering drawing (1)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Depart. | | | |
| **Department offering the program** | Architecture Engineering Depart. | | | |
| **Department offering the course** | Engineering Mathematics and Physics department | | | |
| **Course Code** | MCE 0101 | | | |
| **Prerequisites** | None | | | |
| **Year/level** | Prep. Year / First Level | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | ٢ | ٤ | 0 | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Use the basic, knowledge and skills of the concepts and principles of engineering drawing and fundamental of drawing projections. The basic principles of drawing with several applications are also studied. Work efficiently by using data analysis, objective engineering judgment (AM 1.1) |

## 3. Learning Outcomes (CLOs)

| | |
|---|---|
| CLO 1 | Identify and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| CLO 2 | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| CLO16 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. |
| CLO17 | Use creative, innovative, and flexible thinking to respond to new situations. |
| CLO18 | Acquire entrepreneurial and leadership skills to anticipate new situations. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction of principles of engineering lines used in drawing. | 1 |
| Geometric construction theories of view derivation | 2 |
| Orthographic projection of engineering bodies. | 3 |
| Orthographic projection of engineering bodies. | 4 |
| Projection of point, lines, surfaces, and bodies. | 5 |
| How to divide of engineering drawing board and general engineering drawing | 6 |
| Drawing engineering operations and some application on it. | ٧ |
| Drawing engineering operations and some application on it. | ٨ |
| Drawing of simple isometrics and its projections. | 10 |
| Drawing of simple isometrics and its projections. | 11 |
| Drawing of complicated isometrics with inclined surfaces. | 12 |
| Drawing of complicated isometrics with inclined surfaces. | 13 |
| Drawing of the third projection with the knowledge of the other projectors. | 14 |
| Drawing of the third projection with the knowledge of the other projectors. | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (LOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO 1 | √ | √ | | √ | | | | √ | √ | | | |
| CLO 2 | √ | √ | | √ | | | | √ | √ | | | |
| CLO16 | √ | √ | | √ | | | | √ | √ | | | |
| CLO17 | √ | √ | | √ | | | | √ | √ | | | |
| CLO18 | √ | √ | | √ | | | | √ | √ | | | |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| N. | Assessment Method | LOs |
|---|---|---|
| 1 | Attendance | ------- |
| 2 | Reports | Clo1, Clo2, Clo16, Clo17, Clo18 |
| 3 | Quiz | Clo1, Clo2 |
| 4 | Mid-term Exam | Clo1, Clo2, Clo16, Clo17, Clo18 |
| 5 | Written Exam | Clo1, Clo2, Clo16, Clo17, Clo18 |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | Weekly |
| 2 | Reports | weekly |
| 3 | Quiz | 8 |
| 4 | Mid-term Exam | ١٤ |
| 5 | Final Exam | 16 |

### 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights |
|---|---|---|---|
| **Teacher Opinion** | Reports | 10% | 10 |
| | Quiz 1 | 10% | 10 |
| | Mid-term exam | 20% | 20 |
| **Final Exam** | | 60% | 60 |
| **Total** | | 100% | 100 |

## 7. List of References

[1] K. L. Narayana, P. Kannaiah, and K. Venkata Reddy ' Machine Drawing' New Age International (P) Ltd., 2006.
[2] C. Simmons, D. Maguive, and N. Phelps, 'Manual of Engineering Drawing', Elsevier Ltd., 2009.
[3] N. D. Bhatt, Engineering Drawing, Charotar Publiction; 54th Edition 2022, ISBN-10 : 9385039709
[4] R K DHAWAN, A Text Book of Engineering Drawing: Geometrical Drawing 3rd Rev. Edition 2006, Published by S Chand; ASIN : B00QUYKXI

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture |
| White board |
| Classroom |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | LO's |
|---|---|---|
| Introduction of principles of engineering lines used in drawing. | 1 | Clo1, Clo2 |
| Geometric construction theories of view derivation | 1 | Clo1, Clo2, Clo17 |
| Orthographic projection of engineering bodies. | 1 | Clo1, Clo16. |
| Orthographic projection of engineering bodies. | 1 | Clo1, Clo16,Clo17 |
| Projection of point, lines, surfaces, and bodies. | 1 | Clo1, Clo16 |
| How to divide of engineering drawing board and general engineering drawing | 1 | Clo1, Clo17 |
| Drawing engineering operations and some application on it. | 1 | Clo16, Clo17, Clo18, |
| Drawing engineering operations and some application on it. | 1 | Clo16, Clo17, Clo18 |
| Drawing of simple isometrics and its projections. | | |
| Drawing of simple isometrics and its projections. | 1 | Clo16, Clo17, Clo18 |
| Drawing of complicated isometrics with inclined surfaces. | 1 | Clo1, Clo2, Clo16, Clo17, Clo18 |
| Drawing of complicated isometrics with inclined surfaces. | 1 | Clo16, Clo17, Clo18 |
| Drawing of the third projection with the knowledge of the other projectors. | 1 | Clo16, Clo17, Clo18 |
| Drawing of the third projection with the knowledge of the other projectors. | 1 | Clo1, Clo2, Clo16, Clo17, Clo18 |
| Introduction of principles of engineering lines used in drawing. | 1 | Clo2, Clo16, Clo17, Clo18 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| Plo1 | Identify, formulate, and solve complex engineering | CLO 1 | Identify and formulate complex engineering problems by applying |

| | | | |
|---|---|---|---|
| | problems by applying engineering fundamentals, basic science, and mathematics. | | engineering fundamentals, basic science, and mathematics. |
| | | CLO 2 | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| Plo8 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. | CLO16 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. |
| Plo9 | Use creative, innovative, and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations. | CLO17 | Use creative, innovative, and flexible thinking to respond to new situations. |
| | | CLO18 | Acquire entrepreneurial and leadership skills to anticipate new situations. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Mohamed Abdelrahman** | |
| **Head of Department** | **Ass.Prof. Dr. Reham Othman** | |
| **Date of Approval** | **7-10-2023** | |

برنامج الهندسة المعمارية
المعهد العالي للهندسة والتكنولوجيا
بالتجمع الخامس

| | | |
|---|---|---|
| | **Ministry of Higher Education**<br>**Higher Institute of Engineering and Technology**<br>**Architecture Eng. Department** | |

**Course Specification**

**Course Code:** HUM0101 **Course Title:** Technical Language

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Depart. | | | |
| **Department offering the program** | Architecture Engineering Depart. | | | |
| **Department offering the course** | Engineering Mathematics and Physics department | | | |
| **Course Code** | HUM0101 | | | |
| **Prerequisites** | None | | | |
| **Year/level** | Prep. Year / First Level | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | - | - | 2 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with techniques, skills, and some English grammar and rules necessary for effectively writing numbers, equations, symbols, and some different types of technical documents such as reports, proposals, letters, and presentations. (AM3.1) |

### 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO1 | Identify technical words problems by applying engineering fundamentals and basic science |
| CLO16 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Review of English Grammar and Mechanics of Language (Capitalization –Punctuation) | 1 |
| Review of English Grammar and Mechanics of Language (Capitalization –Punctuation) | 2 |
| Some characteristics of Technical Language (Abbreviation) | 3 |
| How to write numbers, units, equations, symbols, and units of measure | 4 |
| How to write numbers, units, equations, symbols, and units of measure | 5 |
| Technical words problems: such as jargons, Big words, Wordy phrases, Redundancies, Clichés, Nouns as adjectives, and Misused and troublesome words and phrases | 6 |
| Technical words problems: such as jargons, Big words, Wordy phrases, Redundancies, Clichés, Nouns as adjectives, and Misused and troublesome words and phrases | 7 |

| | |
|---|---|
| Technical words problems: such as jargons, Big words, Wordy phrases, Redundancies, Clichés, Nouns as adjectives, and Misused and troublesome words and phrases | 8 |
| Rules and Principals of technical writing | 10 |
| Rules and Principals of technical writing | 11 |
| Good technical writing | 12 |
| Good technical writing | 13 |
| Applications of technical writing<br>• Letters<br>• reports<br>• manuals<br>• proposals<br>• presentations | 14 |
| Applications of technical writing<br>• Letters<br>• reports<br>• manuals<br>• proposals<br>• presentations | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Bi-lectures | Brain storm | E-Learning | Self-learning | Modeling and |
| CLO1 | √ | | | | | | | √ | | | √ | |
| CLO16 | √ | √ | | √ | | | | √ | | | | |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | ------- |
| 2 | Reports | CLO16 |
| 3 | Discussions | CLO1, CLO16 |
| 4 | Quiz | CLO1 |
| 5 | Mid-term Exam | CLO1, CLO16 |
| 6 | Written Exam | CLO1, CLO16 |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | Weekly |
| 2 | Reports | Bi-weekly |
| 3 | Discussions | Weekly |
| 4 | Quiz | 5 |

| | | |
|---|---|---|
| 5 | Mid-term Exam | 9 |
| 6 | Written Exam | 16 |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights |
|---|---|---|---|
| **Teacher Opinion** | Reports | 10% | 10 |
| | Discussions | 5% | 5 |
| | Quiz | 5% | 5 |
| | Mid-term exam | 20% | 20 |
| **Final Exam** | | 60% | 60 |
| **Total** | | 100% | 100 |

## 7. List of References

[1]- D. J. Weatherford, “Technical Writing in Engineering Professions", 2016.
[2] - Phillip A. Laplante, “Technical Writing: A Practical Guide for Engineers and Scientists”, CRC Press, 2nd edition, July 2018.
[3]- Stephen Howe, Concise PhraseBook for Writing Academic English, Whole World Company Press (October 1, 2022), ISBN-10: 1903384095
[4]- Mark Ibbotson, Cambridge English for Engineering Student's Book with Audio CDs (2) (Cambridge English For Series) Student Edition, Cambridge University Press; New Student edition 2020, ISBN-10: 0521715180

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture |
| White board |
| Classroom |

## 9. Matrix of Course Content with Course LO’s

| Topics | Aim | CLO's |
|---|---|---|
| Review of English Grammar and Mechanics of Language (Capitalization –Punctuation) | 1 | CLO16 |
| Review of English Grammar and Mechanics of Language (Capitalization –Punctuation) | 1 | CLO16 |
| Some characteristics of Technical Language (Abbreviation) | 1 | CLO16 |
| How to write numbers, units, equations, symbols, and units of measure | 1 | CLO1, CLO16 |
| How to write numbers, units, equations, symbols, and units of measure | 1 | CLO1, CLO16 |
| Technical words problems: such as jargons, Big words, Wordy phrases, Redundancies, Clichés, Nouns as adjectives, and Misused and troublesome words and phrases | 1 | CLO1 |

| | | |
|---|---|---|
| Technical words problems: such as jargons, Big words, Wordy phrases, Redundancies, Clichés, Nouns as adjectives, and Misused and troublesome words and phrases | 1 | CLO1 |
| Technical words problems: such as jargons, Big words, Wordy phrases, Redundancies, Clichés, Nouns as adjectives, and Misused and troublesome words and phrases | 1 | CLO1 |
| Rules and Principals of technical writing | 1 | CLO1, CLO16 |
| Rules and Principals of technical writing | 1 | CLO1, CLO16 |
| Good technical writing | 1 | CLO16 |
| Good technical writing | 1 | CLO16 |
| Applications of technical writing<br>• Letters<br>• reports<br>• manuals<br>• proposals<br>presentations | 1 | CLO16 |
| Applications of technical writing<br>• Letters<br>• reports<br>• manuals<br>• proposals<br>presentations | 1 | CLO16 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO1 | Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics. | CLO1 | Identify technical words problems by applying engineering fundamentals and basic science |
| PLO8 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. | CLO16 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Sahar Shoshan** | |
| **Head of Department** | **Ass.Prof.Reham Othman** |  |
| **Date of Approval** | **7-10-2023** | |

**Course Specification**

**Course Code: ARE 1103 Course Title: Architectural Drawing & Representation Techniques**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Department | | | |
| **Department offering the program** | Architecture Engineering Department | | | |
| **Department offering the course** | Architecture Engineering Department | | | |
| **Course Code** | **ARE 1103** | | | |
| **Year/level** | First year / Second Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 5 | 0 | 7 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with modern academic and technical skills, to apply and practice in architectural projects. (AM3.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO19 | Apply new knowledge in architecture projects |
| CLO24 | Deal with the relation between people, buildings, and their surrounding interior and exterior environment |
| CLO25 | Produce designs with the scale of humanity and its needs |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction and how to provide entry level visualization | 1 |
| How to communicate and design skills for a wide variety of fields | 2 |
| Principles of geometric projection in architectural drawings | 3 |
| Principles of architectural drawings (How to draw plans) | 4 |
| How to draw sections | 5 |
| How to draw elevations | 6 |
| How to draw lay out | 7 |
| Illustrate interior and furniture design for the building | 8 |
| Requirements and skills for free drawing and displaying architectural projects presentation | 10 |
| How to create the perspective of the project | 11 |

| | |
|---|---|
| Shade and Shadows and practice on simple elements | 12 |
| Shade and Shadows and practice on the project | 13 |
| Practical application on full architecture project – semi final | 14 |
| Practical application on full architecture project – final project | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO19 | √ | √ | - | √ | √ | - | - | √ | - | √ | √ | - |
| CLO24 | √ | √ | - | √ | - | - | - | - | - | √ | √ | - |
| CLO25 | √ | √ | - | - | √ | - | - | √ | - | √ | - | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO19-CLO24-CLO25 |
| 3 | Discussions | CLO19 – CLO25 |
| 4 | Mid Term Exam | CLO19-CLO24 |
| 5 | Class works | CLO19-CLO24-CLO25 |
| 6 | Projects | CLO19-CLO25 |
| 7 | Research | CLO19-CLO24 |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | Weekly |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | 15 |
| 7 | Research | 7 |

### 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| Teacher Opinion | Discussions | 60 | 60 | 5 | 5 |
| | Mid-term exam | | | 20 | 20 |
| | Class works | | | 15 | 15 |

| | | | | | |
|---|---|---|---|---|---|
| | Projects | | | 15 | 15 |
| | Research | | | 5 | 5 |
| **Final Exam** | Written exam | 40 | 40 | 40 | 40 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References


- Zell, Mo, "Architectural Drawing Course: Tools and Techniques for 2D and 3D Representation", 2nd Revised ed., Barron's Educational Series, UK, **2018.** ISBN:1438011156
- Edwards, Brian, "Understanding Architecture Through Drawing", 2nd Edition, Taylor & Francis, USA, **2009**. ISBN: 9780415444149
- محمد حلمي، "مبادئ الرسم والتصميم المعماري للمباني"، ط١، دار المراجع العلمية للنشر والتوزيع، مصر، ٢٠٢١.
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- ك. ديسي، ثوماس لاسويل، "الاعتبارات الإنسانية في التصميم المعماري"، دار جامعة الملك سعود للنشر، المملكة العربية السعودية، ٢٠١٦. رقم التسجيل: 161107
- محمد عبدالله، "الإظهار المعماري"، مكتبة الأنجلو المصرية، يناير ٢٠٠٠. رقم التسجيل: 9789770511145


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |
| LMS |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Introduction and how to provide entry level visualization | 1 | CLO19 |
| How to communicate and design skills for a wide variety of fields | 1 | CLO19 |
| Principles of geometric projection in architectural drawings | 1 | CLO19-CLO24 |
| Principles of architectural drawings (How to draw plans) | 1 | CLO24-CLO25 |
| How to draw sections | 1 | CLO24-CLO25 |
| How to draw elevations | 1 | CLO24-CLO25 |
| How to draw lay out | 1 | CLO24-CLO25 |
| Illustrate interior and furniture design for the building | 1 | CLO19- CLO24-CLO25 |
| Requirements and skills for free drawing and displaying architectural projects presentation | 1 | CLO19-CLO24-CLO25 |
| How to create the perspective of the project | 1 | CLO19-CLO24-CLO25 |
| Shade and Shadows and practice on simple elements | 1 | CLO19-CLO24-CLO25 |

| | | |
|---|---|---|
| Shade and Shadows and practice on the project | 1 | CLO19-CLO24-CLO25 |
| Practical application on full architecture project – semi final | 1 | CLO19-CLO24-CLO25 |
| Practical application on full architecture project – final project | 1 | CLO19-CLO24-CLO25 |

## 9. Matrix of Program LOs with Course Los

| Program Los | | Course Los | |
|---|---|---|---|
| PLO10 | Acquire and apply new knowledge; and practice self, lifelong and other learning strategies. | CLO19 | Apply new knowledge in architecture projects |
| PLO12 | Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs | CLO24 | Deal with the relation between people, buildings, and their surrounding interior and exterior environment |
| | | CLO25 | Produce designs with the scale of humanity and its needs |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Hadeel Mahmoud** | |
| **Head of Department** | **Assocc. Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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# Course Specification

**Course Code: ARE 1101** **Course Title: Building construction 1**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 1101 | | | |
| **Year/level** | first year / Second Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 3 | - | 5 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | choose the best way of building construction to prepare suitable building by understanding the elements of it. (AM5.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO 6 | Know engineering construction processes to build suitable buildings. |
| CLO7 | specified needs with consideration for cultural, social, economic, environmental, and ethical aspects. |
| CLO26 | Select suitable way of construction to prepare suitable building |
| CLO27 | choose the structural design, construction, technology used |

## 4. Course Contents

| Topics | Week |
|---|---|
| Define terms Of Buildings and its components | 1 |
| clear the main elements of the building and its foundations | 2 |
| Deep Foundations | 3 |
| Illustrated Building materials and building systems (bearing walls, skeleton) | 4 |

| | |
|---|---|
| Illustrated Building materials and building systems (shell construction and other new structural systems) | 5 |
| train the student to draw the constructional details | 6 |
| Architectural Bonds, Tools | 7 |
| Architectural Wall thickness, Openings. | 8 |
| Architectural Bonds, Openings. Lintels and arches | 10 |
| Architectural Building materials and types of finishes. | 11 |
| Architectural Bonds, Tools | 12 |
| Architectural Wall thickness, Openings. | 13 |
| Stairs and its type | 14,15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO 6 | √ | - | - | - | - | - | - | √ | - | √ | - | - |
| CLO7 | √ | √ | - | - | - | - | - | √ | - | √ | - | - |
| CLO26 | √ | √ | - | - | - | - | - | √ | - | √ | - | - |
| CLO27 | √ | √ | - | - | - | - | - | √ | - | √ | - | - |

## 6.Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLos |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO7-CLO26-CLO27 |
| 3 | Discussions | CLO6-CLO7-CLO26-CLO27 |
| 4 | Mid Term Exam | CLO7-CLO26 |
| 5 | Class works | CLO7-CLO26-CLO27 |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|

| | | |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | Weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | Weekly |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | %60 | 60 | %5 | 5 |
| | Class works | | | %15 | 15 |
| | Mid-term exam | | | %20 | 20 |
| **Final Exam** | Written exam | %40 | 40 | %40 | 40 |
| **Total** | | %100 | 100 | %100 | 100 |

## 7. List of References


- DAVID CHAPELL & ANDREW WILLS,(2019)," The Architect in Practice "RIBA, New york, Wiley-Blackwell ,11TH Edition ISBN 13 978-1118907733 .
- Guedi Capeluto, Carlos Ernesto Ochoa,(2017), Intelligent Envelopes for High-Performance Buildings, Design and Strategy ,Springer Cham,1st Edition, ISBN13 978-3319392547.
- Wilhelm, N.E. (2014). Building Construction. In: Selin, H. (eds) Encyclopaedia of the History of Science, Technology, and Medicine in Non-Western Cultures. Springer,6TH ed, Jones & Bartlett Learning,ISBN13 978-1284177312.
- Edward Allen , Joseph Iano(2019); Fundamentals of Building Construction: Materials and Methods , Wiley ,7th Edition,ISBN-13 978-1119446194.

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- محمود احمد على,(2021), سلسلة دليلك فى عالم التنفيذ الجزء الاول والثانى ,دار الكتب العلمية للنشر والتوزيع, القاهرة.


## 8.Facilities required for teaching and learning

| |
|---|
| Lecture/ LMS |
| White board |
| Data show |

## 9.Matrix of Course Content with Course LO's

| Topics | Aim | LO's |
|---|---|---|
| Define terms Of Buildings and its components | 1 | CLO6-CLO7- CLO26 |
| clear the main elements of the building and its foundations | 1 | CLO6-CLO26 |
| Deep Foundations | 1 | CLO6-CLO26 |
| Illustrated Building materials and building systems (bearing walls, skeleton) | 1 | CLO6-CLO26 |
| Illustrated Building materials and building systems (shell construction and other new structural systems) | 1 | CLO6-CLO26 |
| train the student to draw the constructional details | 1 | CLO6-CLO7-CLO26 |
| Architectural Bonds, Tools | 1 | CLO6-CLO7-CLO26 |
| Architectural Wall thickness, Openings. | 1 | CLO6-CLO7-CLO27 |
| Architectural Bonds, Openings. Lintels and arches | 1 | CLO7-CLO26-CLO27 |
| Architectural Building materials and types of finishes. | 1 | CLO6-CLO7-CLO26-CLO27 |
| Architectural Bonds, Tools | 1 | CLO6-CLO7-CLO26-CLO27 |
| Architectural Wall thickness, Openings. | 1 | CLO6-CLO7-CLO26-CLO27 |
| Stairs and its type | 1 | CLO6-CLO7-CLO26 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO3 | Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical, and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development. | CLO 6 | Know engineering construction processes to build suitable buildings. |
| | | CLO7 | specified needs with consideration for cultural, social, economic, environmental, and ethical aspects. |
| PLO13 | Preparing environmentally responsible designs to preserve and rehabilitate the environment through an understanding of the structural design, construction, technology used and associated engineering problems Building designs | CLO26 | Select suitable way of construction to prepare suitable building |
| | | CLO27 | choose the structural design, construction, technology used |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Hend Ali** | |
| **Head of Department** | **Assocc. Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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# Course Specification

**Course Code: ARE 1104** **Course Title: Theories of Architecture (1)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture department | | | |
| **Department offering the program** | Architecture department | | | |
| **Department offering the course** | Architecture department | | | |
| **Course Code** | ARE 1104 | | | |
| **Year/Level** | First year /Second level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | - | - | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with cultural knowledge of Architecture. students will learn about Architecture definition, elements &Basics (AM٣.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO12 | Practice research techniques and methods of investigation as an inherent part of learning. |
| CLO22 | Use Adequate knowledge of related fine arts human sciences |

## 4. Course Contents

| Topics | Week |
|---|---|
| Illustrated Architecture definition, elements &Basics, Anthropometry Measurements | 1 |
| Elements of Architecture: utilization- Service - Movement (vertical- horizontal)- Lighting - construction -Ventilation– aesthetic- a process | 2 |
| HUMAN (Measurements & Anthropometry) & Residential unit spaces | 3 |
| Primary Elements: Point - Line -From Line to Plane -Planar Elements -Volumetric Elements | 4 |
| Form Primary Shapes -Primary Solids - Regular & Irregular Forms - Transformation of Form -Articulation of Form | 5 |
| Form & Space: Unity of Opposite- Form Defining Space) | 6 |
| Horizontal & Vertical Elements Defining Space | 7 |
| Organization: Organization of Form & Space (Spatial - Centralized - Linear - Radial - Clustered - Grid ) | 8 |
| Qualities of Architectural Space | 10 |
| Ordering Principles: (Axis -Symmetry -Hierarchy - Datum ) | 11 |
| Ordering Principles: (-Rhythm -Repetition -Transformation) | 12 |
| Proportion & Scale Theories of Proportion :( Golden Section-Classical Orders) | 13 |
| Proportion & Scale Theories of Proportion | 14 |
| Modular-Anthropometry-Scale) | 15 |

## 5. Teaching and Learning methods

| Course Learning Outcomes (Los) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brainstorm | E-Learning | Self-learning | Modeling and Simulation |
| CLO12 | | | - | √ | - | √ | | √ | √ | √ | | |
| CLO22 | √ | √ | - | √ | - | √ | | √ | | √ | √ | |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | LOs |
|---|---|---|
| 1 | Attendance | ---------- |
| 3 | Discussions | CLO12-CLO22 |
| 4 | Mid Term Exam | CLO22 |
| 5 | Researches | CLO12-CLO22 |
| 6 | Presentations | CLO12-CLO22 |
| 7 | Quiz | CLO22 |
| 8 | Written exam | CLO22 |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Researches | 4 & 12 |
| 6 | Presentations | 4 & 12 |
| 7 | Quiz | 3 & 11 |
| 8 | Written exam | 16 |

### 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | %50 | 50 | 5% | 5 |
| | Mid-term exam | | | ٢٠% | ٢٠ |
| | Researches | | | 10% | 10 |
| | Presentations | | | 10% | 10 |
| | Quiz | | | ٥% | 5 |
| **Final Exam** | Written exam | %50 | 50 | %50 | 50 |
| **Total** | | %100 | 100 | %100 | 100 |

## 7. List of References


- Ch'ing, Francis D.K, Architecture Space, Form, and Order, 4th Edition2020. ISBN-13: 978-1118745083.
- Donald Watson (Author), Michael J. Crosbie (Author) (2004): Time Saver Standards for Architectural Design Data. Publisher: McGraw Hill ISBN-13: 978-0071432054.
- Emst Neufert Architects, Data, The Alden Group Ltd. Oxford and Northampton – (3rd Edition) – 2022
- K. Michael Hays (Editor2000), Architecture Theory since 1968. Publisher: The MIT Press, ISBN-13: 978-0262581882.


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture hall |
| Whiteboard |
| LMS |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | LO's |
|---|---|---|
| Architecture definition &Basics, Anthropometry (HUMAN) Measurements | 1 | CLO22 |
| Elements of Architecture: utilization- Service - Movement (vertical- horizontal)- Lighting - construction -Ventilation– aesthetic- a process | 1 | CLO22 |
| HUMAN (Measurements & Anthropometry) & Residential unit spaces | 1 | CLO12- CLO22 |
| Primary Elements: Point - Line -From Line to Plane -Planar Elements -Volumetric Elements | 1 | CLO12- CLO22 |
| Form Primary Shapes -Primary Solids - Regular & Irregular Forms - Transformation of Form -Articulation of Form | 1 | CLO12- CLO22 |
| Form & Space: Unity of Opposite- Form Defining Space) | 1 | CLO12- CLO22 |
| Horizontal & Vertical Elements Defining Space | 1 | CLO12- CLO22 |
| Organization: Organization of Form & Space (Spatial - Centralized - Linear - Radial - Clustered - Grid ) | 1 | CLO22 |
| Qualities of Architectural Space | 1 | CLO22 |
| Ordering Principles: (Axis -Symmetry -Hierarchy - Datum ) | 1 | CLO22 |
| Ordering Principles: (-Rhythm -Repetition -Transformation) | 1 | CLO22 |
| Proportion & Scale Theories of Proportion :(Golden Section-Classical Orders) | 1 | CLO12- CLO22 |
| Proportion & Scale Theories of Proportion :(Modular-Anthropometry-Scale) | 1 | CLO12- CLO22 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO5 | Practice research techniques and methods of investigation as an inherent part of learning. | CLO12 | Practice research techniques and methods of investigation as an inherent part of learning. |
| PLO11 | Create architectural, urban, and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies, and human sciences. | CLO22 | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies, and human sciences |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Assoc Prof. Rania Badawy** | |
| **Head of Department** | **Assoc Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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**Course Specification**

**Course Code:** CVE 1131 **Course Title:** Surveying

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Program | | | |
| **Department offering the program** | Architecture Engineering department | | | |
| **Department offering the course** | Civil Engineering Department | | | |
| **Course Code** | CVE 1131 | | | |
| **Year/level** | first year / second level (1st Semester) | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 2 | - | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Use data analysis and surveying of architectural sites (AM 1.1) |
| 2 | Train the students on how to use cadastral tools to determine site dimensions, innovative and creative thinking, describing and solving design problems and requirements (AM2.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO2 | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| CLO16 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction to surveying and mapping: Historical background, definitions and branches of surveying science. | 1 |
| Measurements units, Map Scale | 2 |
| Direct and indirect methods of distance measurements by classical and electronic methods. | 3 |
| Directions and angles measurements using theodolites. computation of traverses. | 4 |
| Areas calculations (regular and irregular parcel shapes) by using mathematical, mechanical and graphical methods. | 5 |
| Introduction to vertical control. Different methods for height difference determination. | 6 |
| Ordinary levelling: survey level and survey staff. | 7 |

| | |
|---|---|
| Longitudinal levelling | 8 |
| cross section levelling | 10 |
| grid levelling and contour lines | 11 |
| Volume computations and earthwork | 12 |
| kinds and sources of errors in surveying measurement | 13-14 |
| Revisions | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO2 | √ | √ | √ | √ | | √ | | | | √ | √ | |
| CLO16 | | | | | | √ | | | | √ | √ | |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | ----- |
| 2 | Reports | CLO2,CLO15 |
| 3 | Quiz | CLO2 |
| 4 | Mid-term Exam | CLO15 |
| 5 | Presentations | CLO2,CLO16 |
| 6 | Written exam | CLO2,CLO15,CLO16 |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | Weekly |
| 2 | Reports | Bi-weekly |
| 3 | Quiz | 4 & 10 |
| 4 | Mid-term Exam | 9 |
| 5 | Presentations | 13 |
| 6 | Written exam | 16 |

| 6.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| **Teacher Opinion** | Reports | 40% | 40 | 5% | 5 |
| | Presentations | | | 5% | 5 |
| | Quiz | | | 10% | 10 |
| | Mid-term exam | | | 20% | 20 |
| **Final Exam** | Written exam | 60% | 60 | 60% | 60 |
| **Total** | | 100% | 100 | 100% | 100 |

## 7. List of References

[1] De, Alak. *Plane Surveying*. S. Chand Publishing, 2000.

[2] Napoles, E., and M. Berber. "Precise formula for volume computations using contours method." *Boletim de Ciências Geodésicas* 24 (2018)

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/ |
| White board |
| Classroom |
| Data show |
| Laboratory Usage |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLOs |
|---|---|---|
| Introduction to surveying and mapping: Historical background, definitions and branches of surveying science. | 1,2 | CLO2 |
| Measurements units, Map Scale | 1 | CLO2,CLO16 |
| Direct and indirect methods of distance measurements by classical and electronic methods. | 1,2 | CLO2, CLO16 |
| Directions and angles measurements using theodolites. computation of traverses. | 2 | CLO2 |
| Areas calculations (regular and irregular parcel shapes) by using mathematical, mechanical and graphical methods. | 2 | CLO2, CLO16 |
| Introduction to vertical control. Different methods for height difference determination. | 2 | CLO2, CLO16 |
| Ordinary levelling: survey level and survey staff. | 1 | CLO16 |
| Longitudinal levelling | 1 | CLO16 |
| cross section levelling | 1,2 | CLO2 , CLO16 |
| grid levelling and contour lines | 2 | CLO16 |

| | | |
|---|---|---|
| Volume computations and earthwork | 2 | CLO16 |
| kinds and sources of errors in surveying measurement | 1,2 | CLO2 |
| Revisions | 1,2 | CLO2 ,CLO16 |

## 10. Matrix of Program LOs with Course Los

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO1 | Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics. | CLO2 | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| PLO8 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. | CLO16 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Ahmed Hamdy Ibrahim** | |
| **Head of Department** | **Assocc. Prof. Reham Othman.** | |
| **Date of Approval** | **7/10/2023** | |

Ministry of Higher Education
Higher Institute of Engineering and Technology
Architecture Eng. department

**Course Specification**

**Course Code: HUM 1302 Course Title: Technical reports writing**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | HUM 1302 | | | |
| **Year/level** | First year /Second Level | | | |
| **Specialization** | Minor | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 1 | 0 | 3 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Prepare project documents and provide developing expertise to the studnt's work and decision making ( AM5.2) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO12 | Practice research techniques and methods of investigation as an inherent part of learning. |
| CLO16 | Communicate effectively verbally and in writing by Selecting the most appropriate form in which to present information |

## 4. Course Contents

| Topics | Week |
|---|---|
| Definition of technical writing and Overview of International Database for scientific research | 1 |
| Elements of Ethics in Scientific Writing and levels of plagiarism | 2 |
| Styles of writing | 3 |

| | |
|---|---|
| Steps of technical writing | 4 |
| Elements of technical writing | 5 |
| Paper Structure I | 6 |
| Paper Structure II | 7 |
| Structure of Figures | 8 |
| Structure of Tables | 10 |
| Abbreviations, Formatting | 11 |
| How to write References | 12 |
| Resume writing | 13 |
| Presentation Skills I | 14 |
| Presentation Skills II | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (LOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research | Projects | Presentation | Site Visits | Discussion | Brain storm | E-Learning | Self-learning | Modeling and simulation |
| CLO12 | √ | - | - | - | - | - | - | - | - | √ | √ | - |
| CLO16 | √ | - | - | √ | - | - | - | - | - | - | √ | - |

## 6.Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | LOs |
|---|---|---|
| 1 | Attendance | ---------- |
| 2 | Mid Term Exam | CLO16 -CLO12 |
| 3 | Research | CLO16 |
| 4 | Final Exam | CLO16 -CLO12 |

### 6.2 Assessment Schedule

| No | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | weekly |
| 2 | Mid Term Exam | 9 |
| 3 | Research | 4,6,11,13 |
| 4 | Written Exam | 16 |

| 6.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| **Teacher Opinion** | Mid Term Exam | 50 | 50 | 20 | 20 |
| | Research | | | 30 | 30 |
| **Final Exam** | Written exam | 50 | 50 | 50 | 50 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] Morgan, K. & McCart A. (2015). Technical Writing Process. (3d Edition). Publisher : Technical Writing Process. ISBN-10 : 0994169310

[2] Alley,M. (2018). The Craft of Scientific Writing.(4th edition). Publisher : Springer. ISBN-10 : 1441982876

[3] Paul F. & Jeremy H.(2003)Writing Engineering Specifications (2nd Edition) Routledge. ISBN : 0415263026

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture hall |
| White board |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | LO's |
|---|---|---|
| Definition of technical writing and Overview of International Database for scientific research | 1 | CLO12 -CLO16 |
| Elements of Ethics in Scientific Writing and levels of plagiarism | 1 | CLO16 |
| Styles of writing | 1 | CLO16 |
| Steps of technical writing | 1 | CLO12 -CLO16 |
| Elements of technical writing | 1 | CLO12 -CLO16 |
| Paper Structure I | 1 | CLO16 |
| Paper Structure II | 1 | CLO12 |
| Structure of Figures | 1 | CLO12 |
| Structure of Tables | 1 | CLO12 -CLO16 |
| Abbreviations, Formatting | 1 | CLO16 |
| How to write References | 1 | CLO12 -CLO16 |
| Resume writing | 1 | CLO12 -CLO16 |

| | | | |
|---|---|---|---|
| 13 | Presentation Skills I | 1 | CLO12 -CLO16 |
| 14 | Presentation Skills II | 1 | CLO12 -CLO16 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO5 | Practice research techniques and methods of investigation as an inherent part of learning. | CLO12 | Practice research techniques and methods of investigation as an inherent part of learning. |
| PLO8 | Communicate effectively verbally and in writing by Selecting the most appropriate form in which to present information | CLO16 | Communicate effectively verbally and in writing by Selecting the most appropriate form in which to present information |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Yasmin Talaat Ismail** | |
| **Head of Department** | **Assoc Prof. Dr. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

برنامج الهندسة المعمارية
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بالتجمع الخامس

# Course Specification

**Course Code: ARE 1102** **Course Title: Visual Design & Design Fundamentals**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 1102 | | | |
| **Year/level** | First year /Second level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 5 | - | 7 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Train the students for innovative and creative thinking, describing and solving design problems and requirements (AM2.1) |
| 2 | Use aesthetic methods and principles that ensure meeting the needs of present and future generations in terms of social aspects (AM2.2) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO21 | Create architectural designs that meet aesthetic and technical requirements |
| CLO22 | Use Adequate knowledge of related fine arts human sciences |

## 4. Course Contents

| Topics | Week |
|---|---|
| Illustrated importance of forms and its principles | 1 |
| Studying Point as one of primary architecture elements (properties- uses in architecture). | 2 |
| Studying Line, Plane and Serial planes as one of primary architecture elements (properties- uses in architecture). | 3 |
| Studying Volume as one of primary architecture elements (properties- uses in architecture) | 4 |
| Formative transformations of volumes | 5 |
| Studying organization of Form & Space (Centralized -Linear -Radial - Clustered –Grid) | 6 |
| Formation using constructional vocabulary | 7 |
| Designing principles and applying on small project | 8 |
| Designing Section and Elevation | 10 |
| How to make Chalet Plans (Zoning + Bubble diagrame + Plan) | 11 |
| How to make Chalet Sections | 12 |
| How to make Chalet Elevation | 13 |
| Semifinal Project | 14 |
| Final Project | 15 |

## 5.Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO21 | √ | - | - | - | √ | √ | - | - | - | √ | √ | - |
| CLO22 | √ | √ | - | - | - | √ | - | - | - | √ | - | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | LOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CL21-CLO22 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | CLO22 |
| 5 | Class works | CLO22 |
| 6 | Projects | CL21 |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | CL21-CLO22 |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | Weekly |
| 6 | Projects | 15 |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | Weekly |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| Teacher Opinion | Class works | %60 | 60 | %20 | 20 |
| | Presentation | | | %5 | 5 |
| | Project | | | %15 | 15 |

| | | | | | |
|---|---|---|---|---|---|
| | Mid-term exam | | | %20 | 20 |
| **Final Exam** | Written exam | %40 | 40 | %40 | 40 |
| **Total** | | %100 | 100 | %100 | 100 |

## 7. List of References


- FRANCIS D. K. CHING, "FORM, SPACE, AND ORDER", Fourth Edition, 2020 ISBN: 9780471752165.
- FRANCIS D. K. CHING, "A Visual Dictionary of Architecture",2011, ISBN: 0470648856.
- STEVEN P. JUROSZEK, "Design Drawing", Third Edition, 2020, ISBN:978-1-119-50859-5


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | LO's |
|---|---|---|
| Illustrated importance of forms and its principles | 1 | CLO22 |
| Studying Point as one of primary architecture elements (properties- uses in architecture). | 1 | CLO22 |
| Studying Line, Plane and Serial planes as one of primary architecture elements (properties- uses in architecture). | 1 | CLO22 |
| Studying Volume as one of primary architecture elements (properties- uses in architecture) | 1 | CLO22 |
| Formative transformations of volumes | 1 | CLO22 |
| Studying organization of Form & Space (Centralized -Linear - Radial - Clustered –Grid) | 1 | CL21-CLO22 |
| Formation using constructional vocabulary | 1 | CLO22 |
| Designing principles and applying on small project | 2 | CL21-CLO22 |
| Designing Section and Elevation | 1 | CLO22 |
| How to make Chalet Plans (Zoning + Bubble diagrame + Plan) | 1 | CL21-CLO22 |
| How to make Chalet Sections | 1 | CL21-CLO22 |
| How to make Chalet Elevation | 1 | CL21-CLO22 |
| Semifinal Project | 2 | CL21-CLO22 |
| Final Project | 2 | CL21-CLO22 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences. | CLO21 | Create architectural designs that meet aesthetic and technical requirements |
| | | CLO22 | use Adequate knowledge of related fine arts human sciences |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Hadeer Abdelsamie** | |
| **Head of Department** | **Associa. Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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# Course Specification

**Course Code: ARE 2103** **Course Title: Theories of Architecture (2)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 2103 | | | |
| **Year/level** | Second year / Third Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | 0 | 0 | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Train the students for innovative and creative thinking, describing and solving design problems (AM2.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO15 | Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams. |
| CLO21 | Recognize architectural designs aspects that integrate social, aesthetic and technical requirements. |
| CLO22 | Use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction and overview | 1 |
| Concepts and terminology of architectural design | 2 |
| Functional Relationships and their expressions | 3 |
| Shaping the architectural design concept | 4 |
| Architectural design process methodology (Pre-design studies) | 5 |
| Architectural design process methodology (preparation of the design program) | 6 |
| Architectural design process methodology (site analysis-1) | 7 |
| Architectural design process methodology (site analysis-2) | 8 |
| Architectural design process methodology (Design problem) | 10 |

| | |
|---|---|
| Architectural design process methodology (Dimensions of the design problem) | 11 |
| Modern trends in solving design problems | 12 |
| Foundations of restoring models of public buildings | 13 |
| The basics of designing models of administrative buildings(1) | 14 |
| The basics of designing models of administrative buildings(2) | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO15 | √ | - | - | | - | √ | | √ | √ | √ | √ | - |
| CLO21 | √ | - | - | √ | - | √ | √ | | | | | - |
| CLO22 | √ | - | - | | - | √ | | √ | √ | √ | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO15, CLO21, CLO22 |
| 3 | Discussions | CLO15,CLO21 |
| 4 | Mid Term Exam | CLO15, CLO21, CLO22 |
| 5 | Class works | CLO15, CLO21, CLO22 |
| 6 | Projects | - |
| 7 | Researches | CLO21,CLO22 |
| 8 | Reports | - |
| 9 | Presentations | CLO21,CLO22 |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | - |
| 7 | Researches | week 5-week 15 |
| 8 | Reports | - |

| | | |
|---|---|---|
| 9 | Presentations | week 5-week 15 |
| 10 | Quiz | - |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 50 | 50 | 5 | 5 |
| | Class works | | | 5 | 5 |
| | Researches | | | 10 | 10 |
| | Presentations | | | 10 | 10 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Written exam | 50 | 50 | 50 | 50 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References


- Ching, Francis D.K.(2014), Architecture Space, Form, and Order, 4th Edition. ISBN-13: 978-1118745083.
- Donald Watson (Author), Michael J. Crosbie (Author) (2004): Time Saver Standards for Architectural Design Data. Publisher: McGraw Hill ISBN-13: 978-0071432054.
- De Bono, E., Serious Creativity (1992): Using the Power of Lateral Thinking to Create New Ideas, Harper Collins, Publisher : Harpercollins. ISBN-13: 978-0887305665
- K. Michael Hays (Editor)( 2000), Architecture Theory since 1968. Publisher: The MIT Press, ISBN-13 : 978-0262581882.
- د/على رأفت (٢٠٠٧): كتاب ثلاثية الإبداع المعماري (المضمون والشكل) بين العقلانية والوجدانية، مركز أبحاث إنتركونسلت.
- د/ محمد محمود عويضة(١٩٨٤) : تطور الفكر المعماري في القرن العشرين، دار النهضة العربية للطباعة والنشر والتوزيع، مصر.
- د/طارق ابو عوف (٢٠١٥) كتاب المبدأ التصميمي Design concept، مكتبة الأنجلو المصرية.


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Lecture room |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Introduction and overview | 1 | - |
| Concepts and terminology of architectural design | 1 | CLO22 |

| | | |
|---|---|---|
| Functional Relationships and their expressions | 1 | CLO15 |
| Shaping the architectural design concept | 1 | CLO15,CLO22 |
| Architectural design process methodology (Pre-design studies) | 1 | CLO15,CLO22 |
| Architectural design process methodology (preparation of the design program) | 1 | CLO15,CLO22 |
| Architectural design process methodology (site analysis-1) | 1 | CLO15,CLO21,CLO22 |
| Architectural design process methodology (site analysis-2) | 1 | CLO15,CLO21,CLO22 |
| Architectural design process methodology (Design problem) | 1 | CLO15,CLO22 |
| Architectural design process methodology (Dimensions of the design problem) | 1 | CLO15,CLO22 |
| Modern trends in solving design problems | 1 | CLO15, CLO21,CLO22 |
| Foundations of restoring models of public buildings | 1 | CLO15, CLO21,CLO22 |
| The basics of designing models of administrative buildings(1) | 1 | CLO15, CLO21,CLO22 |
| The basics of designing models of administrative buildings(2) | 1 | CLO15, CLO21,CLO22 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO7 | Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams. | CLO15 | Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams. |
| PLO11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences. | **CLO21** | Recognize architectural designs aspects that integrate social, aesthetic and technical requirements. |
| | | **CLO22** | Use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Marwa Emad** | |
| **Head of Department** | **Assoc. Prof. Reham Othman** | |
| **Date of Approval** | **07/10/2023** | |

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# Course Specification

**Course Code: ARE 2104** **Course Title: Acoustics & Artificial Lighting**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 2104 | | | |
| **Year/level** | Second Year | | | (3st Level) |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 0 | 0 | 2 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Train the students for creative thinking, solving design problems of sound and lighting and applying it to architectural projects. (AM2.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| **CLO9** | Utilize contemporary technologies, codes of practice and standards. |
| **CLO23** | Produce designs that meet the requirements of building users |
| **CLO25** | Produce designs with the scale of humanity and its needs |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction of the subject and the research required. | 1 |
| Illustrate Artificial lighting: Visual perception and light. | 2 |
| Designing for artificial lighting quantity and quality for users | 3 |
| Illustrate how Computer simulation programs that aid artificial lighting design.+ Research 1 | 4 |
| Illustrate Behavior of sound waves in enclosures. | 5 |
| What about Sound absorption, Sound reflections, Sound isolation. | 6 |
| Explain The concepts and objectives of acoustics design. | 7 |
| The most important considerations that have to be considered for designing auditoriums.+ Research 2 | 8 |
| Presentation of the basic sources of industrial lighting and their role in architecture. | 10 |
| The integration of natural artificial lighting. | 11 |

| | |
|---|---|
| Concepts of design lighting system in working drawings. | 12 |
| Presentation of the role of computer programs in the design of industrial lighting. + Research 3 | 13 |
| Final presentations of the Researches. | 14 |
| Revision all the course | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and | Projects | Presentation | Site Visits | Discussion and | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| **CLO9** | √ | - | - | - | - | √ | - | √ | - | √ | √ | - |
| **CLO23** | - | √ | - | √ | - | - | - | √ | - | - | - | - |
| **CLO25** | √ | - | - | √ | - | - | - | √ | - | - | - | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLos |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO23, CLO25 |
| 3 | Discussions | CLO9, CLO23, CLO25 |
| 4 | Mid Term Exam | CLO9, CLO23 |
| 5 | Class works | CLO23,CLO25 |
| 6 | Projects | - |
| 7 | Researches | CLO9, CLO25 |
| 8 | E-Learning | CLO9 |
| 9 | Presentations | CLO9, CLO25 |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | - |

| | | |
|---|---|---|
| 7 | Researches | 4,8,13 |
| 8 | Reports | - |
| 9 | Presentations | 15 |
| 10 | Quiz | - |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 50 | 50 | 5 | 5 |
| | Researches | | | 20 | 20 |
| | Presentations | | | 5 | 5 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Written exam | 50 | 50 | 50 | 50 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] Marshall Long, “Architectural Acoustics, Second Edition ", Elsevier Science, second edition, 2014, ISBN: 9780123982582, 0123982588

[2] Leo L. Beranek ,Tim J. Mellow,, " Acoustics: Sound Fields and Transducers ", Elsevier Science ,First edition, 2012, ISBN: 9780123914217, 0123914213.

[3]دكتور أحمد الخطيب، " الصوتيات المعمارية النظرية والتطبيق "، مكتبة الأنجلو المصرية، ٢٠٠٣.

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Lecture room equipped with e-learning tools (computer, mike, etc.) |
| LMS |
| Data show |

## 9. Matrix of Course Content with Course LO’s

| Topics | Aim | CLO's |
|---|---|---|
| Introduction of the subject and the research required. | 1 | CLO9 |
| Illustrate Behavior of sound waves in enclosures. | 1 | CLO9, CLO25 |
| What about Sound absorption | 1 | CLO9, CLO25 |
| What about Sound reflections, Sound isolation. | 1 | CLO9,CLO23,CLO25 |
| The applications of Sound absorption, Sound reflections, Sound isolation. | 1 | CLO9, CLO25 |

| | | |
|---|---|---|
| Explain The concepts and objectives of acoustics design. Part (1) | 1 | CLO9, CLO25 |
| Explain The concepts and objectives of acoustics design.Part (2) | 1 | CLO9, CLO23 |
| The most important considerations that have to be considered for designing auditoriums+ Research 1 | 1 | CLO9, CLO25 |
| Illustrate Artificial lighting: Visual perception and light. | 1 | CLO9, CLO25 |
| Designing for artificial lighting quantity and quality for users.+ Research 2 | 1 | CLO9, CLO25 |
| Illustrate Artificial lighting: Visual perception and light. | 1 | CLO9, CLO25 |
| Concepts of design lighting system in working drawings. | 1 | CLO9,CLO23,CLO25 |
| Presentation of the role of computer programs in the design of industrial lighting.+ Final Research | 1 | CLO9,CLO23,CLO25 |

## 10. Matrix of Program LOs with Course Los

| Program LOs | | Course Los | |
|---|---|---|---|
| PLO4 | Use of modern technologies and professional practice bases, quality standards, health and environmental health and risk issues and risk management principles. | **CLO9** | Utilize contemporary technologies, codes of practice and standards. |
| PLO12 | Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs | **CLO23** | Produce designs that meet the requirements of building users |
| | | **CLO25** | Produce designs with the scale of humanity and its needs |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Nesma Helmy** |  |

| | | |
|---|---|---|
| **Head of Department** | **Assoc. Prof. Reham Othman** |  |
| **Date of Approval** | **07/10/2023** | |

**Course Specification**

**Course Code: ARE 2101** **Course Title: Architectural Design (2)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 2101 | | | |
| **Year/level** | Second year / Third Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 0 | 8 | 0 | 8 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Apply the innovative and creative thinking, describing and solving design problems and meet the user requirements (AM2.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO8 | Achieve the principles of design within the principles and contexts of sustainable design and development |
| CLO21 | Create architectural, urban and planning designs that meet aesthetic and technical requirements |
| CLO22 | Use the knowledge of design principles and modern technologies in the design of project. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Research work for the related topic. Introduction to project and site analysis and detailed program | 1 |
| Site analysis + Skiz1 | 2 |
| Layout 1/500 and Study Model | 3 |
| Layout 1/500 + Ground floor plan 1/400 | 4 |
| Layout 1/500 + Ground floor plan 1/400 (Design Development) | 5 |
| Skiz1 (Layout 1/500 + Ground floor plan 1/200 + sections 1/200) | 6 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200 | 7 |
| sections 1/200 + Elevations 1/200 | 8 |
| sections 1/200 + Elevations 1/200 | 10 |
| Skiz 2(Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective ) | 11 |
| All Project observation | 12 |
| All Project observation | 13 |
| Semifinal project submission | 14 |

| | |
|---|---|
| Final project submission | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO8 | √ | | - | √ | | √ | - | √ | - | - | | - |
| CLO21 | | √ | - | | √ | | - | √ | - | - | √ | - |
| CLO22 | √ | | - | √ | | √ | - | √ | - | - | | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO8,CLO21, CLO22 |
| 3 | Discussions | CLO8,CLO21, CLO22 |
| 4 | Mid Term Exam | CLO8,CLO21 |
| 5 | Class works | CLO8,CLO21, CLO22 |
| 6 | Projects | CLO8,CLO21, CLO22 |
| 7 | Researches | CLO21,CLO22 |
| 8 | Reports | - |
| 9 | Presentations | CLO8,CLO21 |
| 10 | Quiz | - |
| 11 | Skiz | CLO8,CLO21 |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | 14,15 |
| 7 | Researches | 2 |
| 8 | Reports | - |
| 9 | Presentations | 2 |
| 10 | Quiz | - |
| 11 | Skiz | 6,11 |

### 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 60 | 60 | 5 | 5 |
| | Class works | | | 10 | 10 |
| | Projects | | | 10 | 10 |
| | Researches | | | 3 | 3 |
| | Presentations | | | 2 | 2 |
| | Skiz | | | 10 | 10 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Written exam | 40 | 40 | 40 | 40 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] Jihad Awad, (2020), "Top International Architects - DESIGN CONCEPTS IN ARCHITECTURE (4 volumes)", Universal Publisher & Distributor Est., Abu Dhabi - U.A.E., ISBN 978-9953-591-05.6

[٢] محمد ماجد خلوصي، (٢٠٠٥)، "المبانى التعليمية"، دار قابس للطباعة والنشر والتوزيع، القاهرة، مصر، ISBN: 133033

[3] Joseph De Chiara (Author, Editor), Michael J. Crosbie (Author, Editor), "Time-Saver Standards for Building Types, 4th Edition", published by McGraw-Hill, United States of America, 2015, ISBN-13 : 978-9339217778.

[4] Ernst Neufert (Author), Peter Neufert (Author) ,Bousmaha Baiche (Editor), Nicholas Walliman(Editor), (2012), "Neufert s Architects Data 4th Edition", published by Wiley–Blackwell, ISBN-13. 978-1405192538.

[5] Alan Ford, (2017), "Designing the Sustainable School", The Images Publishing Group, Australia, ISBN: 9781864702378.

[6] Charls Spence, (2020), "Senses of place: architectural design for the multisensory mind".

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Introducion of the project | 1 | CLO22 |
| Reaserch for the project + Skiz1 | 1 | CLO8, CLO22 |
| Layout 1/500 | 1 | CLO8, CLO21 |
| Layout 1/500 + Ground floor plan 1/400 | 1 | CLO8, CLO21 |
| Layout 1/500 + Ground floor plan 1/400 | 1 | CLO8, CLO21 |
| Skiz1 (Layout 1/500 + Ground floor plan 1/200 + sections 1/200) | 1 | CLO8, CLO21 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200 | 1 | CLO8, CLO21 |
| sections 1/200 + Elevations 1/200 | 1 | CLO8, CLO21 |
| sections 1/200 + Elevations 1/200 | 1 | CLO8, CLO21 |

| | | |
|---|---|---|
| Skiz 2(Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective ) | 1 | CLO8,CLO21, CLO22 |
| All Project observation | 1 | CLO8,CLO21, CLO22 |
| All Project observation | 1 | CLO8,CLO21, CLO22 |
| Semifinal project | 1 | CLO8,CLO21, CLO22 |
| Final project | 1 | CLO8,CLO21, CLO22 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO3 | Application of engineering design processes for the production of cost-effective solutions meet needs Specific taking into account cultural, social, economic, environmental and professional ethics In accordance with with the principles of design and sustainable development. In accordance with specialization and in accordance with the principles of design and sustainable development. | CLO8 | Achieve the principles of design within the principles and contexts of sustainable design and development |
| PLO11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences. | CLO21 | Create architectural, urban and planning designs that meet aesthetic and technical requirements |
| | | CLO22 | Use the knowledge of design principles and modern technologies in the design of project. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr.Yasmin Talaat- Dr. Hadeer Abdelsamie** | |
| **Head of Department** | **Assoc. Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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| | | |
|---|---|---|
| | **Ministry of Higher Education**<br>**Higher Institute of Engineering and Technology**<br>**Architecture Eng. Department** | |

**Course Specification**

**Course Code: ARE 2204** **Course Title:** Theories & History of Planning

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Department | | | |
| **Department offering the program** | Architecture Engineering Department | | | |
| **Department offering the course** | Architecture Engineering Department | | | |
| **Course Code** | **ARE 2204** | | | |
| **Year/level** | Second year / Third Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | 0 | 0 | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with cultural knowledge of history of city Planning and differentiate between cities planning whether through direct education or e-learning. (AM3.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| **CLO12** | Practice research techniques and methods of investigation as an inherent part of learning. |
| **CLO22** | Gain Adequate knowledge of history, culture, local heritage and human sciences |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduces the scope of studying the history of cities Planning. | 1 |
| The origins of the city throughout history. How city has originated, Why | 2 |
| The Old and new stone era | 3 |
| Ancient Sumer cities civilization | 4 |
| Ancient Egyptian cities civilization | 5 |
| Greek cities civilization | 6 |
| Roman cities civilization | 7 |
| Emerging form including the transformations since the middle ages – Islamic cities | 8 |
| Emerging form including the transformations since the middle ages – barok civilization | 10 |
| Elements of city in planning | 11 |
| Theories of city planning | 12 |
| The origins of modern city and theories (Horizontal extension) | 13 |

| | |
|---|---|
| The origins of modern city and theories (Vertical extension) | 14 |
| Comparison between theories of Cities | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO12 | √ | - | - | √ | - | √ | - | √ | - | √ | √ | - |
| CLO22 | √ | - | - | - | - | - | √ | - | - | - | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | --- |
| 2 | Written exam | CLO12, CLO22 |
| 3 | Discussions | CLO12 |
| 4 | Mid Term Exam | CLO12, CLO22 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | CLO12 |
| 8 | Reports | - |
| 9 | Presentations | CLO12 |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | weekly |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | 5 – 12 |
| 8 | Reports | - |
| 9 | Presentations | 5 -8-12 |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 50% | 50 | 5% | 5 |
| | Researches | | | 15% | 15 |
| | Presentations | | | 10% | 10 |
| | Mid-term exam | | | 20% | 20 |
| **Final Exam** | Written exam | 50% | 50 | 50% | 50 |
| **Total** | | 100% | 100 | 100% | 100 |

## 7. List of References

Obateru, Oluremi & Obateru, Rotimi, "Cities and Planning in history", 1st edition, Penthouse Publications, Nigeria, 2019. ISBN: 978 978 56205 4 2

- Cartledge, Paul. "Ancient Greece: a very short introduction", Vol. 286. Oxford University Press, 2011. ISBN: 0199601348
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- خلف الدليمي، "تخطيط المدن: نظريات – أساليب – معايير - تقنيات"، ط١، دار صفاء للطباعة والنشر والتوزيع، ٢٠١٥. رقم التسجيل: 9789957249250
- أحمد خالد علام، "تاريخ تخطيط المدن"، مكتبة الأنجلو المصرية، ١٩٩٨.

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Lecture room equipped with e-learning tools (internet, mike, etc.) |
| LMS |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Introduces the scope of studying the history of cities Planning. | 1 | CLO22 |
| The origins of the city throughout history. How city has originated, Why | 1 | CLO22 |
| The Old and new stone era | 1 | CLO12, CLO22 |
| Ancient Sumer cities civilization | 1 | CLO12, CLO22 |
| Ancient Egyptian cities civilization | 1 | CLO12, CLO22 |
| Greek cities civilization | 1 | CLO12, CLO22 |
| Roman cities civilization | 1 | CLO12, CLO22 |
| Emerging form including the transformations since the middle ages – Islamic cities | 1 | CLO12, CLO22 |
| Emerging form including the transformations since the middle ages – barok civilization | 1 | CLO22 |
| Elements of city in planning | 1 | CLO22 |

| | | |
|---|---|---|
| Theories of city planning | 1 | CLO22 |
| The origins of modern city and theories (Horizontal extension) | 1 | CLO22 |
| The origins of modern city and theories (Vertical extension) | 1 | CLO22 |
| Comparison between theories of Cities | 1 | CLO22 |

## 10. Matrix of Program LOs with Course Los

| Program Los | | Course Los | |
|---|---|---|---|
| PLO5 | Exercise and application of scientific research techniques and methods as an integral part of learning. | **CLO12** | Practice research techniques and methods of investigation as an inherent part of learning. |
| PLO11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences. | **CLO22** | Gain Adequate knowledge of history, culture, local heritage and human sciences |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Hadeel Mahmoud** | |
| **Head of Department** | **Assoc. Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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# Course Specification

**Course Code: ARE 2102** **Course Title: Building Construction & Principles of Working Drawings (1)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 2101 | | | |
| **Year/level** | Second year / Third Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 4 | 0 | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with the capacity to prepare flexible and ecologically responsible designs by understanding modern structural and technological designs. (AM5.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO9 | Utilize contemporary technologies, codes of practice and standards. |
| CLO10 | Demonstrate knowledge and understanding of different building materials and Application method techniques. |
| CLO26 | Integrate relationship of building materials, and construction elements. |
| CLO27 | Use appropriate construction techniques and materials to specify and implement different. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction and overview | 1 |
| Water and damp proofing | 2 |
| Thermal proofing | 3 |
| Expansion and settlement joints | 4 |
| Floor Finishes: Marble/ Granite | 5 |
| Floor Finishes: Ceramic / Tiles | 6 |
| Floor Finishes: Wooden | 7 |
| Introduction to wall Finishes: Plaster work/ wall paper | 8 |
| Wall Finishes: Marble cladding(Dry System) | 10 |
| Wall Finishes: wet system | 11 |

| | |
|---|---|
| External wall Finishes | 12 |
| Introduction to Celling Finishes: Plaster work | 13 |
| Celling Finishes: Ceiling finishes Suspended & False Ceiling | 14 |
| Celling Finishes: False Ceiling (Metal , wooden) | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO9 | √ | √ | - | √ | - | √ | - | √ | - | √ | √ | - |
| CLO10 | √ | √ | - | | - | | - | √ | - | √ | | - |
| CLO26 | √ | √ | - | √ | - | √ | - | √ | - | √ | √ | - |
| CLO27 | √ | √ | - | | - | | - | √ | - | √ | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO9,CLO10, CLO26,CLO27 |
| 3 | Discussions | CLO9,CLO10, CLO26,CLO27 |
| 4 | Mid Term Exam | CLO10,CLO26 |
| 5 | Class works | CLO9,CLO10, CLO26,CLO27 |
| 6 | Projects | - |
| 7 | Researches | CLO9,CLO26 |
| 8 | Reports | CLO9,CLO26 |
| 9 | Presentations | CLO9,CLO26 |
| 10 | Quiz | - |
| 11 | Skiz | CLO9,CLO26,CLO27 |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | - |
| 7 | Researches | weekly |
| 8 | Reports | - |

| | | |
|---|---|---|
| 9 | Presentations | weekly |
| 10 | Quiz | - |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 60 | 60 | 5 | 5 |
| | Class works | | | 25 | 25 |
| | Researches | | | 5 | 5 |
| | Presentations | | | 5 | 5 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Written exam | 40 | 40 | 40 | 40 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References


- Edward Allen (2019), Joseph Iano; Fundamentals of Building Construction: Materials and Methods 7th Edition. ISBN-13: 978-1119446194.
- Chudley, Roy & Greeno, Roger (2014), Building Construction Handbook, 10th Ed, Routledge, NY. ISBN13: 978-0-415-83638-8.
- Ching, Francis D. K(2012); Building Construction Illustration, Wiley , 4th Ed , ISBN-13 : 978-8126535637.
- Elena M. S. Garrison (Editor)(2003); The Graphic Standards Guide to Architectural Finishes: Using MASTERSPEC to Evaluate, Select, and Specify Materials, The American Institute of Architects, ISBN: 978-0-471-44952-2.
- Dennis J. Hall, Nina M. Giglio(2016) ; Architectural Graphic Standards, 12th Edition Mitchell, American Institute of Architects, ISBN: 978-1-118-90950-8.
- محمد أحمد عبدالله (٢٠١٥) ، الرسومات التنفيذية والتفاصيل المعمارية، مكتبة الأنجلو المصرية، القاهرة.


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Lecture room equipped with e-learning tools (computer, mike, etc.) |
| Data show |

**9. Matrix of Course Content with Course LO's**

| Topics | Aim | CLO's |
|---|---|---|
| Introduction and overview | 1 | CLO10 |
| Water and damp proofing | 1 | CLO10 |
| Thermal proofing | 1 | CLO10 |
| Expansion and settlement joints | 1 | CLO10 |
| Floor Finishes: Marble/ Granite | 1 | CLO9,CLO26,CLO27 |

| | | |
|---|---|---|
| Floor Finishes: Ceramic / Tiles | 1 | CLO9,CLO26,CLO27 |
| Floor Finishes: Wooden | 1 | CLO9,CLO26,CLO27 |
| Introduction to wall Finishes: Plaster work/ wall paper | 1 | CLO9,CLO26,CLO27 |
| Wall Finishes: Marble cladding(Dry System) | 1 | CLO9,CLO26,CLO27 |
| Wall Finishes: wet system | 1 | CLO9,CLO26,CLO27 |
| External wall Finishes | 1 | CLO9,CLO26,CLO27 |
| Introduction to Celling Finishes: Plaster work | 1 | CLO9,CLO26,CLO27 |
| Celling Finishes: Ceiling finishes Suspended & False Ceiling | 1 | CLO9,CLO26,CLO27 |
| Celling Finishes: False Ceiling (Metal , wooden) | 1 | CLO9,CLO26,CLO27 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO4 | Use of modern technologies and professional practice bases, quality standards, health and environmental health and risk issues and risk management principles. | CLO9 | Utilize contemporary technologies, codes of practice and standards. |
| | | CLO10 | Demonstrate knowledge and understanding of different building materials and Application method techniques. |
| PLO13 | Preparing environmentally responsible designs to preserve and rehabilitate the environment through an understanding of the structural design, construction, technology used and associated engineering problems Building designs. | CLO26 | Integrate relationship of building materials, and construction elements. |
| | | CLO27 | Use appropriate construction techniques and materials to specify and implement different. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Marwa Emad** | |
| **Head of Department** | **Assoc. Prof. Reham Othman** | |
| **Date of Approval** | **07/10/2023** | |

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| | | |
|---|---|---|
| | **Ministry of Higher Education**<br>**Higher Institute of Engineering and Technology**<br>**Architectural Eng. Department** | |

Course Specification

**Course Code: CVE 2131** **Course Title: Concrete Structures**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Program | | | |
| **Department offering the program** | Architecture Engineering department | | | |
| **Department offering the course** | Civil Engineering Department | | | |
| **Course Code** | CVE 2131 | | | |
| **Year/level** | Second year / Third level (1st Semester) | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | 2 | | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Produce innovative construction design solutions in several architectural buildings. (AM1.2) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO1 | Define and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| **CLO 6** | Manage engineering design processes to produce cost-effective solutions. |
| **CLO17** | Use creative, innovative, and flexible thinking to respond to new situations |

## 4. Course Contents

| Topics | Week |
|---|---|
| **Revision of structure (1) how to draw internal forces**. | 1 |
| **Conversion from architecture to construction.** | 2 |
| **Design of solid slab systems (one way, and cantilever).** | 3 |
| **Design of solid slab systems (two way).** | 4 |
| **Design of simplebeams.** | 5 |
| **Design of continuous beams.** | 6 |
| **Introduction in different types of columns**. | 7 |
| **Design of columns (squarecolumns, rectangular columns, and circular columns)**. | 8 |
| **Introduction in different types of foundation.** | 10 |
| **Design of surface foundation (isolated footing).** | 11 |
| **Design of surface foundation (combined footing).** | 12 |
| **Explanation of the general idea of designing deep foundations. Part 1** | 13 |
| **Explanation of the general idea of designing deep foundations. Part 2** | 14 |
| **Final revision and Evaluation.** | 15 |

| 5. | Teaching and Learning methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO1 | √ | - | - | - | - | - | - | - | - | √ | - | - |
| CLO 6 | | √ | - | - | - | - | - | - | - | √ | - | - |
| CLO17 | √ | √ | - | - | - | - | - | - | - | √ | - | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO1, CLO6, CLO17 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | CLO6, CLO17 |
| 5 | Class works | CLO1, CLO6, CLO17 |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | CLO1, CLO6, CLO17 |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | Weekly |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | Weekly |
| 9 | Presentations | weekly |
| 10 | Quiz | - |
| 11 | Skiz | - |

| 6.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| **Teacher Opinion** | Reports / sheets / Activities | 40% | 40 | 10% | 10 |
| | Attendance | | | 10% | 10 |
| | Mid-term exam | | | 20% | 20 |
| **Final Exam** | | 60% | 60 | 60% | 60 |
| **Total** | | 100% | 100 | 100% | 100 |

## 7. List of References

[1] Shahnewaz, Md, Ahmad Rteil, and M. Shahria Alam. "Shear strength of reinforced concrete deep beams–A review with improved model by genetic algorithm and reliability analysis." Structures. Vol. 23. Elsevier, 2020.
[2] Shetty, M. S., and A. K. Jain. Concrete Technology (Theory and Practice), 8e. S. Chand Publishing, 2019.
[3] Darwin, D., Dolan, C. W., & Nilson, A. H. (2016). Design of concrete structures (Vol. 2). New York, NY, USA:: McGraw-Hill Education.
[4] Reynolds, C. E., Steedman, J. C., & Threlfall, A. J. (2007). Reinforced concrete designer's handbook. CRC Press.
[5] Wang, C. K., & Salmon, C. G. (1979). Reinforced concrete design.

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |
| LMS |
| Laboratory Usage |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLos |
|---|---|---|
| **Revision of structure (1) how to draw internal forces.** | 1 | CLO1,CLO6 |
| **Conversion from architecture to construction.** | 1 | CLO17 |
| **Design of solid slab systems (one way, and cantilever).** | 1 | CLO6, CLO17 |
| **Design of solid slab systems (two way).** | 1 | CLO6, CLO7 |
| **Design of simplebeams.** | 1 | CLO17 |
| **Design of continuous beams.** | 1 | CLO17 |
| **Introduction in different types of columns.** | 1 | CLO6 |
| **Design of columns (squarecolumns, rectangular columns, and circular columns).** | 1 | CLO17 |
| **Introduction in different types of foundation.** | 1 | CLO7, CLO17 |
| **Design of surface foundation (isolated footing).** | 1 | CLO6 |

| | | |
|---|---|---|
| **Design of surface foundation (combined footing).** | 1 | CLO6 |
| **Explanation of the general idea of designing deep foundations.** | 1 | CLO6 |
| **Final revision and Evaluation.** | 1 | CLO1, CLO6, CLO17 |

## 10. Matrix of Program LOs with Course Los

| Program LOs | | Course Los | |
|---|---|---|---|
| PLO1 | Identification, formulation and solving complex engineering problems by applying the basics of engineering, basic sciences and mathematics. | CLO1 | Identify and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| PLO3 | Apply engineering design processes to produce cost-effective solutions. Meet specified needs with consideration for global, cultural, social, economic, environmental, and ethical aspects and achieve the principles of design within the principles and contexts of sustainable design and development. | CLO 6 | Apply engineering design processes to produce cost-effective solutions. |
| PLO9 | Use creative, innovative, and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations. | CLO17 | Use creative, innovative, and flexible thinking to respond to new situations |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **DR. Nesrin Ali.** |  |
| **Head of Department** | **Prof. Dr. Reham Othman.** |  |
| **Date of Approval** | **07/10/2023** | |

# Course Specification

**Course Code: ARE 3104 Course Title: Quantities and specifications**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 3104 | | | |
| **Year/level** | Third year /Fourth Level | | | |
| **Specialization** | Major | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 3 | 0 | 5 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with the capacity to prepare flexible and responsible designs by understanding modern structural and technological designs, and their ability to prepare project documents, submit bids and purchase architectural services to produce projects. (AM5.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO29 | Transform design concepts into buildings and integrating plans within restrictions with regulations |
| CLO30 | Prepare design project briefs and documents |
| CLO31 | Manage the architect's context in the construction industry including his role in the bidding and procurement of architectural services |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction to quantities and specifications | 1 |
| Elements of the total construction project cycle and processes. | 2 |
| Specifications: specifications, types- basic requirements in writing a good specification | 3 |
| Calculation of quantities: Drilling works | 4 |
| Calculation of quantities: Concrete works | 5 |
| Calculation of quantities: reinforcement Concrete works (foundations and columns) | 6 |
| Calculation of quantities: reinforcement Concrete works (Roof, beams, lintels and parapets | 7 |

| | |
|---|---|
| Calculation of quantities: Brick works | 8 |
| Follow up and presentation of Collective research about types of finishing | 10 |
| Calculation of quantities: backfill works | 11 |
| Calculation of quantities: isolation works | 12 |
| Calculation of quantities: plastering works | 13 |
| Tenders, scrutinizing of tender, Accepting Tenders, Notice-Inviting tender | 14 |
| project delivery methods, and contracts | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO29 | √ | √ | - | √ | - | √ | - | - | | √ | √ | - |
| CLO30 | √ | √ | - | √ | - | √ | - | √ | √ | √ | √ | - |
| CLO31 | √ | - | - | - | - | - | - | √ | √ | √ | - | - |

## 6.Students' Assessment

### 6.1 Students' Assessment Method

| N | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | ---------- |
| 2 | Written exam | CLO.29, CLO.30, CLO.31 |
| 3 | Discussions | CLO.30, CLO.31 |
| 4 | Mid Term Exam | CLO.30, CLO.31 |
| 5 | Class works | CLO.29, CLO.30 |
| 6 | Projects | - |
| 7 | Researches | CLO.29, CLO.30 |
| 8 | Reports | - |
| 9 | Presentations | CLO.29, CLO.30 |
| 10 | Quiz | CLO.30 |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | weekly |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |

| | | |
|---|---|---|
| 6 | Projects | - |
| 7 | Researches | 10 – 15 |
| 8 | Reports | - |
| 9 | Presentations | 10 – 15 |
| 10 | Quiz | 14 |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 40% | 60 | 3% | 5 |
| | Researches | | | 3% | 5 |
| | class works | | | 14% | 20 |
| | Quiz | | | 3% | 5 |
| | Presentations | | | 3% | 5 |
| | Mid-term exam | | | 14% | 20 |
| **Final Exam** | Written exam | 60% | 90 | 60% | 90 |
| **Total** | | 100% | 150 | 100% | 150 |

## 7.List of References

[1] Hinze, J. (2010). Construction Contracts. (3d Edition). McGraw-Hill Book Company, New York, ISBN-10 : 0073397857.

2-خلوصي،محمد ماجد(2015).الكميات والمواصفات ج2.دار النشر للجامعات،-ISBN: 9771721305

Library Book Code:A-a/41

[3] Towey, D. (2017). Construction Quantity Surveying: A Practical Guide for the Contractor's QS. United Kingdom: Wiley. ISBN:9781119312901

## 8.Facilities required for teaching and learning

| |
|---|
| Lecture hall |
| White board |
| Data show |
| LMS |

## 9.Matrix of Course Content with Course CLO's

| Topics | Aim | CLO's |
|---|---|---|
| Introduction to quantities and specifications | 1 | CLO.29 |
| Elements of the total construction project cycle and processes. | 1 | CLO.29, CLO.31 |
| Specifications: specifications, types- basic requirements in writing a good specification | 1 | CLO.31 |

| | | |
|---|---|---|
| Calculation of quantities: Drilling works | 1 | CLO.30 |
| Calculation of quantities: Concrete works | 1 | CLO.30 |
| Calculation of quantities: reinforcement Concrete works (foundations and columns) | 1 | CLO.30 |
| Calculation of quantities: reinforcement Concrete works (Roof, beams, lintels and parapets) | 1 | CLO.30 |
| Calculation of quantities: Brick works | 1 | CLO.30 |
| Follow up and presentation of Collective research about types of finishing | 1 | CLO.29, CLO.30 |
| Calculation of quantities: backfill works | 1 | CLO.29, CLO.30 |
| Calculation of quantities: isolation works | 1 | CLO.29, CLO.30 |
| Calculation of quantities: plastering works | 1 | CLO.29, CLO.30 |
| Tenders, scrutinizing of tender, Accepting Tenders, Notice-Inviting tender | 1 | CLO.31 |
| project delivery methods, and contracts | 1 | CLO.31 |

## 10. Matrix of Program PLOs with Course CLOs

| Program PLOs | | Course CLOs | |
|---|---|---|---|
| PLO14 | Transforming design concepts into buildings and integrating plans into comprehensive planning within restrictions: Financing Project - Project management - Cost control - Project delivery methods, having sufficient knowledge relevant industries, organizations, regulations and procedures. | **CLO29** | Transform design concepts into buildings and integrating plans within restrictions with regulations |
| PLO15 | Prepare design project briefs and documents and understand the architect's context in the construction industry including, This includes his role in the bidding and procurement of architectural services and the production of buildings | CLO30 | Prepare design project briefs and documents |
| | | CLO31 | Manage the architect's context in the construction industry including his role in the bidding and procurement of architectural services |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Hadeel** Mahmoud | |
| **Head of Department** | **Assoc Prof. Dr. Reham Othman** | |
| **Date of Approval** | 7**/10/202**3 | |

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**Course Specification**

**Course Code: ARE 3101** **Course Title: Architectural Design (4)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 3101 | | | |
| **Year/level** | Third year / Fourth Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 0 | 8 | 0 | 8 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with the capacity to prepare flexible and ecologically responsible designs by understanding technological designs. (AM5.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO21 | Create architectural, urban and planning designs that meet aesthetic and technical requirements. |
| CLO22 | Use the knowledge of design principles and modern technologies in the design of project. |
| CLO23 | Produce designs that meet the requirements of building users. |
| CLO24 | Deal with the relation between people, buildings, and their surrounding environment. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction of the project | 1 |
| Research for the project + Skiz1 | 2 |
| Layout 1/500 | 3 |
| Layout 1/500 + Ground floor plan 1/400 | 4 |
| Layout 1/500 + Ground floor plan 1/400 | 5 |
| Skiz1 (Layout 1/500 + Ground floor plan 1/200 + sections 1/200) | 6 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200 | 7 |
| sections 1/200 + Elevations 1/200 | 8 |
| sections 1/200 + Elevations 1/200 | 10 |
| Skiz 2(Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ | 11 |

| | |
|---|---|
| sections 1/200 + Elevations 1/200+Prespective ) | |
| All Project observation | 12 |
| All Project observation | 13 |
| Semifinal project | 14 |
| Final project | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO21 | √ | | - | √ | | √ | - | √ | - | - | | - |
| CLO22 | | √ | - | | √ | | - | √ | - | - | √ | - |
| CLO23 | | √ | - | | √ | | - | √ | - | - | √ | - |
| CLO24 | | √ | | | √ | | | √ | | | √ | |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO21,CLO22,CLO23,CLO24 |
| 3 | Discussions | CLO23 |
| 4 | Mid Term Exam | CLO21,CLO22,CLO23, |
| 5 | Class works | CLO21,CLO22,CLO23,CLO24 |
| 6 | Projects | CLO21,CLO22,CLO23,CLO24 |
| 7 | Researches | CLO23 |
| 8 | Reports | - |
| 9 | Presentations | CLO23 |
| 10 | Quiz | - |
| 11 | Skiz | CLO21,CLO22,CLO23,CLO24 |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | 15 |
| 7 | Researches | 2 |
| 8 | Reports | - |

| | | |
|---|---|---|
| 9 | Presentations | 2 |
| 10 | Quiz | - |
| 11 | Skiz | 6,11 |

### 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 60 | 60 | 5 | 5 |
| | Class works | | | 10 | 10 |
| | Projects | | | 10 | 10 |
| | Researches | | | 3 | 3 |
| | Presentations | | | 2 | 2 |
| | Skiz | | | 10 | 10 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Written exam | 40 | 40 | 40 | 40 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] Lee Hwa-Jeong, (2020), "ACA: Architecture competition annual. Vol 14 (Education / Culture/ Welfare & Sports)", Published by Archiworld Co.Ltd, Seoul, South Korea , ISBN-13: 978-8957708194.

[2] Jihad Awad, , (2020), "Top International Architects - DESIGN CONCEPTS IN ARCHITECTURE (4 volumes)", Universal Publisher & Distributor Est., Abu Dhabi - U.A.E..

[3] Ernst Neufert (Author), Peter Neufert (Author) ,Bousmaha Baiche (Editor), Nicholas Walliman(Editor), (2012), "Neufert s Architects Data 4th Edition", published by Wiley–Blackwell, ISBN:

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

## 9. Matrix of Course Content with Course CLO's

| Topics | Aim | CLO's |
|---|---|---|
| Introduction of the project | 1 | CLO21 |
| Research for the project + Skiz1 | 1 | CLO21 |
| Layout 1/500 | 1 | CLO22,CLO23 |
| Layout 1/500 + Ground floor plan 1/400 | 1 | CLO22,CLO23 |
| Layout 1/500 + Ground floor plan 1/400 | 1 | CLO22,CLO23 |
| Skiz1 (Layout 1/500 + Ground floor plan 1/200 + sections 1/200) | 1 | CLO21,CLO22,CLO23 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200 | 1 | CLO21,CLO22,CLO23,CLO24 |
| sections 1/200 + Elevations 1/200 | 1 | CLO21,CLO22,CLO23,CLO24 |
| sections 1/200 + Elevations 1/200 | 1 | CLO21,CLO22,CLO23,CLO24 |
| Skiz 2(Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective ) | 1 | CLO21,CLO22,CLO23,CLO24 |
| All Project observation | 1 | CLO21,CLO22,CLO23,CLO24 |
| All Project observation | 1 | CLO21,CLO22,CLO23,CLO24 |
| Semifinal project | 1 | CLO21,CLO22,CLO23,CLO24 |
| Final project | 1 | CLO21,CLO22,CLO23,CLO24 |

## 10. Matrix of Program PLOs with Course CLOs

| Program PLOs | | Course CLOs | |
|---|---|---|---|
| PLO11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences. | CLO21 | Create architectural, urban and planning designs that meet aesthetic and technical requirements |
| PLO12 | Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs | CLO22 | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |
| | | CLO23 | Produce designs that meet the requirements of building users |
| | | CLO24 | Deal with the relation between people, buildings, and their surrounding environment |

| Title | Name | Signature |
|---|---|---|

| | | |
|---|---|---|
| **Course coordinator** | **Assoc. Prof. Reham Othman**<br>**Dr. Nesma Helmy** | |
| **Head of Department** | **Assoc. Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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**Course Specification**

**Course Code: ARE 3163** **Course Title: Elective Course (1)**

**Architectural Criticism & Project Evaluation**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 3163 | | | |
| **Year/level** | Third year / Fourth level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 1 | - | 3 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Use scientific methods that ensure meeting the needs of present and future generations in terms of social, cultural, environmental, and economic aspects.(AM2.2) |
| 2 | Enable the graduates to continue their education and self-learning and qualifying for additional scientific degrees.(AM6.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO.5 | evaluate findings and use statistical analyses and objective engineering judgment. |
| CLO.22 | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

## 4. Course Contents

| Topics | Week |
|---|---|
| Concepts and Benefits of Architectural Criticism & Project Evaluation | 1 |
| Levels and stages of Architectural Criticism & Project Evaluation | 2 |
| How do you write an architecture critique | 3 |
| Types and classifications of architectural criticism | 4-5 |

| | |
|---|---|
| Architectural criticism intellectual trends | 6 |
| Emphasizing the multiplicity of architectural thinking.<br>Techniques of evaluating projects are discussed. | 7 |
| Critical issues in applied reality for contemporary Egyptian arch. Part 1 | 8 |
| Critical issues in applied reality for contemporary Egyptian architecture. Part2 | 10 |
| How to make effective critertion for critical article. | 11 |
| Project of Architectural Criticism of Down Town of Cairo. | 12 |
| Example for critires and their point of view in the criticism. | 13-14 |
| submission of student researches | 15 |

## 5. 6. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO5 | √ | √ | - | √ | - | √ | - | √ | √ | √ | - | - |
| CLO.22 | √ | √ | - | √ | - | - | - | - | - | - | - | - |

## 7. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO5-CLO.22 |
| 3 | Discussions | CLO5 |
| 4 | Mid Term Exam | CLO5-CLO.22 |
| 5 | Class works | CLO5-CLO.22 |
| 6 | Projects | - |
| 7 | Researches | CLO5-CLO.22 |
| 8 | Reports | CLO5-CLO.22 |
| 9 | Presentations | CLO5 |
| 10 | E-Learning | CLO5 |
| 11 | Quiz/Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |

| | | |
|---|---|---|
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works (Assignments) | 6-10 |
| 6 | Projects | - |
| 7 | Researches | 15 |
| 8 | Reports | 15 |
| 9 | Presentations | 10-15 |
| 10 | Quiz | - |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | %50 | 50 | %5 | 5 |
| | Assignments | | | %10 | 10 |
| | Researches and reports | | | %10 | 10 |
| | Presentation | | | %5 | 5 |
| | Mid-term exam | | | %20 | 20 |
| **Final Exam** | Written exam | %50 | 50 | %50 | 50 |
| **Total** | | %100 | 100 | %100 | 100 |

## 8. List of References


- Jane Rendell, (2011), Site-writing: The Architecture of Art criticism paperback- Publisher: I.B. Tauris ISBN:1845119991
- Jacky Bowring. (2020) .Landscape Architecture Criticism, 1st Edition, ISBN: 1138324264.


## 9. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| LMS |
| White board |
| Data show |

## 10. Matrix of Course Content with Course CLO's

| Topics | Aim | CLO's |
|---|---|---|
| Concepts and Benefits of Architectural Criticism & Project Evaluation | 1 | CLO.5 |
| Levels and stages of Architectural Criticism & Project Evaluation | 1 | CLO. 5 |
| How do you write an architecture critique | 2 | CLO.5 |
| Types and classifications of architectural criticism | 1 | CLO.22 |

| | | |
|---|---|---|
| Architectural criticism intellectual trends | 1 | CLO.22 |
| Emphasizing the multiplicity of architectural thinking.<br>Techniques of evaluating projects are discussed. | 2 | CLO.22 |
| Critical issues in applied reality for contemporary Egyptian arch. Part 1 | 1 | CLO.22 |
| Critical issues in applied reality for contemporary Egyptian architecture. Part2 | 2 | CLO5-CLO.22 |
| How to make effective critertion for critical article. | 1 | CLO.22 |
| Prject of Architectural Criticism of Down Town of Cairo. | 2 | CLO5-CLO.22 |
| Example for critires and their point of view in the criticism. | 1 | CLO.22 |
| submission of student researches | 1 | CLO.22 |

## 11. Matrix of Program PLOs with Course CLOs

| Program PLOs | | Course CLOs | |
|---|---|---|---|
| PLO2 | Develop and conduct appropriate experimentation and/or simulation, analyse and interpret data, assess, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions. | **CLO5** | evaluate findings and use statistical analyses and objective engineering judgment. |
| PLO11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences. | **CLO22** | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Nesma Helmy** |  |
| **Head of Department** | **Assocc. Prof. Reham Othman** |  |
| **Date of Approval** | **7/10/2023** | |

| | | |
|---|---|---|
| | **Ministry of Higher Education**<br>**Higher Institute of Engineering and Technology**<br>**Architecture Eng. Department** | |

**Course Specification**

**Course Code: CVE 3131** **Course Title: Steel Structures Design**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Program | | | |
| **Department offering the program** | Architecture Engineering Program | | | |
| **Department offering the course** | Civil Engineering Department | | | |
| **Course Code** | CVE 3131 | | | |
| **Year/level** | third year / fourth level | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 2 | 0 | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Train the students for innovative and creative thinking, describing and solving steel structures design problems and requirements (AM2.1). |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO2 | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| CLO6 | Apply engineering design processes to produce cost-effective solutions in steel projects. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction, Philosophies of steel structure. | 1 |
| Systems and Uses, Materials, Design in steel structure. | 2 |
| Structural systems and general layout | 3 |
| Structural systems and general layout. | 4 |
| Loads, Classification of Sections, Slenderness Ratios and Buckling Lengths and Analysis and design concepts, ASD, LRFD design concepts. | 5 |
| Loads, Classification of Sections, Slenderness Ratios and Buckling Lengths | 6 |

| | |
|---|---|
| and Analysis and design concepts, ASD, LRFD design concepts. | |
| Design of tension members. | 7 |
| Design of axially loaded compression members. | 8 |
| Design of axially loaded compression members. | 10 |
| Types of connections in steel structures (simple connection, shear connection, moment connections) | 11 |
| Design of non-pretension, pretention bolted connections (Shear, Tension & Shear + Tension) and details of bolted connections. | 12 |
| Design of non-pretension, pretention bolted connections (Shear, Tension & Shear + Tension) and details of bolted connections. | 13 |
| Design of welded connections and details of welded connections. | 14 |
| Design of welded connections and details of welded connections. | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO2 | √ | √ | - | √ | - | - | - | √ | - | √ | √ | - |
| CLO6 | √ | √ | - | - | - | - | - | √ | √ | √ | - | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO.2, CLO.6 |
| 3 | Discussions | CLO.2, CLO.6 |
| 4 | Mid Term Exam | CLO.2 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | CLO.2 |
| 9 | Presentations | - |
| 10 | Quiz | CLO.6 |
| 11 | Skiz | - |

| 6.2 Assessment Schedule | | |
|---|---|---|
| No. | **Assessment Method** | **Weeks** |
| 1 | Attendance | Weekly |
| 2 | Written Exam | 16 |
| 3 | Discussions | Weekly |
| 4 | Mid-term Exam | 9 |
| 5 | Class work | - |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | Bi-weekly |
| 9 | Presentations | - |
| 10 | Quiz | 4 ,10 |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 40% | 40 | 5% | 5 |
| | Reports | | | 5% | 5 |
| | Quiz | | | 10% | 10 |
| | Mid-term exam | | | 20% | 20 |
| **Final Exam** | Written exam | 60% | 60 | 60% | 60 |
| **Total** | | 100% | 100 | 100% | 100 |

## 7. List of References

1. Brockenbrough, R. & Merritt, F., "Structural Steel Designer's Handbook", 6th Edition, McGraw Hill, 2019. ISBN-10: 1260440796
2. Branko E. Gorenc & others, "Steel Designers' Handbook", University of New South Wales Press, 2013. ISBN-10: 1742233414
3. Ch. Salman& E. Johnson, " Steel Structures design and Behavior ", 5th Edition, Pearson, 2009. ISBN-10: 0131885561
4. Egyptian Code of Practice ASD, LRFD, 2010.

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| LMS |
| Data show |

## 9. Matrix of Course Content with Course CLO's

| Topics | Aim | CLOs |
|---|---|---|
| Introduction, Philosophies of steel structure. | 1 | CLO.2, |
| Systems and Uses, Materials, Design in steel structure. | 1 | CLO.2 |
| Structural systems and general layout. | 1 | CLO.2, CLO.6 |
| Structural systems and general layout. | 1 | CLO.2, CLO.6 |
| Loads, Classification of Sections, Slenderness Ratios and Buckling Lengths and Analysis and design concepts, ASD, LRFD design concepts. | 1 | CLO.6 |
| Loads, Classification of Sections, Slenderness Ratios and Buckling Lengths and Analysis and design concepts, ASD, LRFD design concepts. | 1 | CLO.6 |
| Design of tension members. | 1 | CLO.6 |
| Design of axially loaded compression members. | 1 | CLO.6 |
| Design of axially loaded compression members. | 1 | CLO.6 |
| Types of connections in steel structures (simple connection, shear connection, moment connections) | 1 | CLO.2 |
| Design of non-pretension, pretention bolted connections (Shear, Tension & Shear + Tension) and details of bolted connections. | 1 | CLO.2, CLO.6 |
| Design of non-pretension, pretention bolted connections (Shear, Tension & Shear + Tension) and details of bolted connections. | 1 | CLO.2, CLO.6 |
| Design of welded connections and details of welded connections. | 1 | CLO.2, CLO.6 |
| Design of welded connections and details of welded connections. | 1 | CLO.2, CLO.6 |

| 10. | Matrix of Program PLOs with Course Clos | | |
|---|---|---|---|
| **Program PLOs** | | **Course CLOs** | |
| PLO1 | Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics. | CLO2 | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| PLO3 | Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical, and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development. | CLO6 | Apply engineering design processes to produce cost-effective solutions in steel projects. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Medhat Mahmoud Momtaz** | |
| **Head of Department** | **Assoc. Prof. Dr. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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# Course Specification

**Course Code: ARE 3161** **Course Title: Elective Course (1) Spatial Composition & Aesthetics in Architecture**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 3161 | | | |
| **Year/level** | Third year / Fourth Level | | | |
| **Specialization** | Minor | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 1 | - | 3 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Use scientific methods that ensure meeting the needs of present and future generations in terms of social, cultural, environmental, and economic aspects(AM2.2) |
| 2 | Enable the graduates to continue their education and self-learning and qualifying for additional scientific degrees.(AM6.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO5 | evaluate findings and use statistical analyses and Architectural judgment. |
| CLO22 | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

## 4. Course Contents

| No. | Topics | Week |
|---|---|---|
| 1 | Illustrate and highlights the impact of aesthetics on architectural form and compositions through the study of theories and principles of artistic composition and philosophical approaches | 1 |
| 2 | How to Creativity and visual perception of spatial formations are analyzed to give students the vocabulary and experience needed | 2 |

| | | |
|---|---|---|
| | for creative design. | |
| 3 | How to evaluate buildings form in modern architecture | 3 |
| 4 | How to evaluate buildings form in islamic architecture | 4 |
| 5 | How to evaluate buildings form in roman architecture | 5 |
| 6 | How to evaluate buildings form in pharaonic architecture | 6 |
| 7 | How to evaluate buildings form in modern architecture in other countries | 7 |
| 8 | develop basic thinking, visualizing and problem-solving skills , in order to apply these skills to a realistic simple creative project | 8 |
| 9 | Create creative and artistic projects | 10 |
| 10 | Study Internal and external spaces hierarchy and interaction | 11 |
| 11 | study of theories and principles of interior design | 12 |
| 12 | study of surfaces: Textures, Forms and visual illusions, Theories of colors, Color schemes and its different effects, The effects of natural and artificial lighting In spaces | 13 |
| 13 | International examples and concepts in interior design. | 14 |
| 14 | Final presentation in Example | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation | |
| CLO5 | √ | √ | - | √ | - | √ | √ | √ | √ | - | - | | |
| CLO22 | √ | - | - | √ | - | √ | √ | √ | √ | - | √ | | |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO5,CLO22 |
| 3 | Discussions | CLO22 |
| 4 | Mid Term Exam | CLO5,CLO22 |
| 5 | Class works | CLO5,CLO22 |
| 6 | Projects | - |
| 7 | Researches | CLO5,CLO22 |
| 8 | Reports | - |
| 9 | Presentations | CLO22 |
| 10 | Quiz | - |

| | | |
|---|---|---|
| 11 | Skiz | - |

**6.2 Assessment Schedule**

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | - |
| 7 | Researches | 3-4-13 |
| 8 | Reports | - |
| 9 | Presentations | 3-4-13 |
| 10 | Quiz | - |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | %50 | 50 | %5 | 5 |
| | Class works | | | %5 | 5 |
| | Researches | | | %15 | 15 |
| | Presentations | | | %5 | 5 |
| | Mid-term exam | | | %20 | 20 |
| **Final Exam** | Written exam | %50 | 50 | %50 | 50 |
| **Total** | | %100 | 100 | %100 | 100 |

## 7. List of References


- Aragüez, M. and Psarra, S. (2015), 'Spatial and social patterns of an urban interior: The Architecture of SAANA'. In: Karimi, K., Vaughan, L., Sailer, K., Palaiologou, G. and Bolton, T. (eds.), Proceedings of the 10th International Space Syntax Symposium, London: UCL, Volume7, ISSN: 2044-7507.
- DAVID CHAPELL & ANDREW WILLS,(2019)," The Architect in Practice" Feasibility Study & Project Management: A Practical Guide, **Wiley-Blackwell**, 11thEd,ISBN13 978-1118907733.
- A Guide to the Project Management Body of Knowledge (PMBOK® Guide), (2021) by Project Management Institute , 7th Ed,ISBN13 978-1935589679.
- Leland M. Roth, (2019),"Understanding Architecture Its Elements, History, and Meaning ", Routledge, New york, 3rd Ed, ISBN10 9780813349039


## 8. Facilities required for teaching and learning

| |
|---|
| White board |
| Data show |

## 9. Matrix of Course Content with Course CLO's

| No. | Topics | Aim | CLO's |
|---|---|---|---|
| 1 | Illustrate and highlights the impact of aesthetics on architectural form and compositions through the study of theories and principles of artistic composition and philosophical approaches | 1 | CLO22 |
| 2 | How to Creativity and visual perception of spatial formations are analyzed to give students the vocabulary and experience needed for creative design. | 1 | CLO5,CLO22 |
| 3 | How to evaluate buildings form in modern architecture | 1 | CLo5,CLO22 |
| 4 | How to evaluate buildings form in Islamic architecture | 1 | CLO5,CLO22 |
| 5 | How to evaluate buildings form in roman architecture | 1 | CLO5,CLO22 |
| 6 | How to evaluate buildings form in pharaonic architecture | 1 | CLO5,CLO22 |
| 7 | How to evaluate buildings form in modern architecture in other countries | 2 | CLO22 |
| 8 | develop basic thinking, visualizing and problem-solving skills , in order to apply these skills to a realistic simple creative project | 2 | CLO22 |
| 9 | Create creative and artistic projects | 2 | CLO22 |
| 10 | Study Internal and external spaces hierarchy and interaction | 1 | CLO22 |
| 11 | study of theories and principles of interior design | 1 | CLO22 |
| 12 | study of surfaces: Textures, Forms and visual illusions, Theories of colors, Color schemes and its different effects, The effects of natural and artificial lighting In spaces | 1 | CLO22 |
| 13 | International examples and concepts in interior design. | 1 | CLO22 |
| 15 | Final presentation in Example | 1 | CLO5,CLO22 |

## 10. Matrix of ProgramP LOs with Course CLOs

| Program PLOs | | Course CLOs | |
|---|---|---|---|
| PLO2 | Develop and conduct appropriate experimentation and/or simulation, analyse and interpret data, assess, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions. | **CLO5** | evaluate findings and use statistical analyses and objective engineering judgment. |
| PLO11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences. | **CLO22** | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Hend Ali** | |
| **Head of Department** | **Assocc. Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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# Course Specification

**Course Code: ARE 3162** **Course Title: Elective Course (1) Architectural Rendering**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 3162 | | | |
| **Year/level** | Third year / Fourth level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 1 | - | 3 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Use scientific methods that ensure meeting the needs of present and future generations in terms of social, cultural, environmental, and economic aspects(AM2.2) |
| ٢ | Enable the graduates to continue their education and self-learning and qualifying for additional scientific degrees (AM6.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO3 | Develop and conduct appropriate experimentation and/or simulation to draw conclusions. |
| CLO22 | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

## 4. Course Contents

| Topics | Week |
|---|---|
| Studying the new materials of presentation | 1 |
| Studying properties of materials | 2 |
| How to use color and materials with sketches (plans -layouts) | 3-4 |

| | |
|---|---|
| How to use color and materials with sketches (Elevations - Sections) | 5 |
| Train the student how to do presentation for the architectural areas and spaces - internal and external | 6 |
| How to represent various material in 3D color and Texture | 7 |
| How to make models to create ability for architectural imagination, Mid Term Exam | 8 |
| Studying of surfaces: Textures, Forms and visual illusions, Theories of colors, Color schemes and its different effects, the effects of natural and artificial lighting in spaces and how to make it in models | 10 |
| Applying 2d presentaion in sample project | 11 |
| Applying 3d presentaion in sample project | 12 |
| Create model for sample project | 13 |
| Add effecting on drawings | 14 |
| submitting final project | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO.3 | √ | √ | - | - | √ | - | - | √ | - | - | - | - |
| CLO.22 | √ | - | - | - | - | - | - | √ | - | - | - | √ |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Fianl exam | CLO.3- CLO.22 |
| 3 | Discussions | CLO.3- CLO.22 |
| 4 | Mid Term Exam | CLO.3- CLO.22 |
| 5 | Class works | CLO3 |
| 6 | Projects | CLO3 |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Modeling and Simulation | CLO22 |
| 11 | Quiz/Skiz | - |

| 6.2 Assessment Schedule | | |
|---|---|---|
| No. | **Assessment Method** | **Weeks** |
| 1 | Attendance | - |
| 2 | Final exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | 11-15 |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Modeling and Simulation | 10 |
| 11 | Quiz/Skiz | - |

| 6.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| **Teacher Opinion** | Discussions | %50 | 50 | %5 | 5 |
| | Class works | | | %7 | 7 |
| | | | | %3 | 3 |
| | Projects | | | %15 | 15 |
| | Mid-term exam | | | %20 | 20 |
| **Final Exam** | Written exam | %50 | 50 | %50 | 50 |
| **Total** | | %100 | 100 | %100 | 100 |

## 7. List of References


- Uffelen,C. (2013)The Book of Drawings + Sketches: Architecture.. Braun Publishing. ISBN-10 : 3037681500
- Afflerbach, F. (2017). Basics Freehand Drawing. Germany: Walter de Gruyter GmbH, ISBN:9783035612714
- Herzberger, E. (1998). Freehand Drawing for Architects and Designers: Watercolor, Colored Pencil, and Black and White techniques: Publisher: Whitney Library of Design, New York.
- Pauwels,W.(2009)Compendium: Colour & Texture. Publisher : Beta-Plus (Acc), ISBN-10 : 9089440127- Library Book Code:A-d/15


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |

| |
|---|
| Data show |

## 9. Matrix of Course Content with Course LO's

| No. | Topics | Aim | CLO's |
|---|---|---|---|
| 1 | Studying the new materials of presentation | 1 | CLO.3 |
| 2 | Studying properties of materials | 1 | CLO.3 |
| 3 | How to use color and materials with sketches (plans -layouts) | 1 | CLO.22 |
| 4 | How to use color and materials with sketches (Elevations -Sections) | 1 | CLO.22 |
| 5 | Train the student how to do presentation for the architectural areas and spaces - internal and external | 2 | CLO.22 |
| 6 | How to represent various material in 3D color and Texture | 2 | CLO.22 |
| 7 | How to make models to create ability for architectural imagination. | 2 | CLO.22 |
| 8 | Studying of surfaces: Textures, Forms and visual illusions, Theories of colors, Color schemes and its different effects, the effects of natural and artificial lighting in spaces and how to make it in models | 1 | CLO.3- CLO.22 |
| 10 | Applying 2d presentaion in sample project | 1,2 | CLO.3- CLO.22 |
| 11 | Applying 3d presentaion in sample project | 1,2 | CLO.3- CLO.22 |
| 12 | Create model for sample project | 1,2 | CLO.3- CLO.22 |
| 13 | Add effecting on drawings | 1,2 | CLO.3- CLO.22 |
| 14 | submitting final project | 1,2 | CLO.3- CLO.22 |

## 10. Matrix of Program LOs with Course Los

| Program LOs | | Course Los | |
|---|---|---|---|
| PLO2 | Develop and conduct appropriate experimentation and/or simulation, analyse and interpret data, assess, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions. | CLO.3 | Develop and conduct appropriate experimentation and/or simulation to draw conclusions. |
| PLO11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine | CLO.22 | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

| | | | |
|---|---|---|---|
| | arts, culture, local heritage, technologies and human sciences. | | |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Assocc. Prof. Reham Othman** | |
| **Head of Department** | **Assocc. Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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بالتجمع الخامس

# Course Specification

**Course Code: ARE3102** **Course Title: Working Drawings (1)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE3102 | | | |
| **Year/level** | Third year / Fourth Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 0 | 6 | 0 | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with modern academic and technical skills, Demonstrate an entire set of working drawings presenting a complete set of documents for an architectural project with weight on structural, construction and technical working Details. (AM3-1, AM3-2) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| **Clo30** | Prepare design project briefs and documents |
| **Clo31** | Manage the architect's context in the construction industry including his role in the bidding and procurement of architectural services |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduce the basics of detailed execution drawings. | 1 |
| Exercises on the preparation of detailed location and assembly drawings including detailed sections | 2 |
| Detailed space drawings and assembly drawings for the coordination between different professions | 3 |
| Finishing Tables , signs, Symbols in working drawings | 4 |
| Follow up lay out of students project | 5 |

| | |
|---|---|
| Follow up plans of students project | 6 |
| Plans phase of students project | 7 |
| Follow up sections of students project | 8 |
| sections phase of students project | 10 |
| Follow up elevations of students project | 11 |
| elevations phase of students project | 12 |
| Follow up plumping of students project | 13 |
| Plumping phase of students project | 14 |
| Final project (Full drawings of preliminary stage) | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| **Clo30** | √ | √- | - | - | √ | √ | - | √ | √ | √ | | - |
| **Clo31** | √ | √ | - | √ | √ | √ | - | √ | √ | √ | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | Clo30, Clo31 |
| 3 | Presentation | Clo30, Clo31 |
| 4 | Discussions | Clo30, Clo31 |
| 5 | Mid Term Exam | Clo30, Clo31 |
| 6 | Class works (Assignment) | Clo30, Clo31 |
| 7 | Projects | Clo30, Clo31 |
| 8 | Research and Reports | Clo31 |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Presentation | Week 3 |
| 4 | Discussions | weekly |
| 5 | Mid Term Exam | 9 |
| 6 | Class works | weekly |
| 7 | Projects | From week 5 To 15 |
| 8 | Research and Reports | week 15 |

| 6.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| **Teacher Opinion** | Class works | | | 25 | 25 |
| | Project | | | 15 | 15 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Written exam | 40 | 40 | 60 | 60 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References


- Francis D. K. Ching( 2020). Building Construction Illustrated 6th Edition. ISBN-10: 111958308X.
- Edward Allen & Patrick Rand (2016); Architectural Detailing - 3rd Edition by Edward Allen & Patrick Rand (Paperback), UPC: 9781118881996.
- Chudley, Roy & Greeno, Roger (2014), Building Construction Handbook, 10th Ed, Routledge, NY. ISBN13: 978-0-415-83638-8
- Ching, Francis D. K.; Building Construction Illustration, Wiley , 4th Ed ,2012
- Elena M. S. Garrison (Editor)(2003) ; The Graphic Standards Guide to Architectural Finishes: Using MASTERSPEC to Evaluate, Select, and Specify Materials, The American Institute of Architects, ISBN: 978-0-471-44952-2.
- Dennis J. Hall, Nina M. Giglio(2016); Architectural Graphic Standards, 12th Edition Mitchell, American Institute of Architects, ISBN: 978-1-118-90950-8.
- محمد أحمد عبدالله(٢٠١٥) ، الرسومات التنفيذية والتفاصيل المعمارية، مكتبة الأنجلو المصرية، القاهرة، ISBN: 9789770520475


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Lecture room |
| Data show |
| LMS |

## 9. Matrix of Course Content with Course CLO's

| Topics | Aim | CLO's |
|---|---|---|
| Introduce the basics of detailed execution drawings. | 1 | - |
| Exercises on the preparation of detailed location and assembly drawings including detailed sections | 1 | Clo30, Clo31 |
| Detailed space drawings and assembly drawings for the coordination between different professions | 1 | Clo30, Clo31 |
| Finishing Tables , signs, Symbols in working drawings | 1 | Clo30, Clo31 |

| | | |
|---|---|---|
| Follow up lay out of students project | 1 | Clo30, Clo31 |
| Follow up plans of students project | 1 | Clo30, Clo31 |
| Plans phase of students project | 1 | Clo30, Clo31 |
| Follow up sections of students project | 1 | Clo30, Clo31 |
| sections phase of students project | 1 | Clo30, Clo31 |
| Follow up elevations of students project | 1 | Clo30, Clo31 |
| elevations phase of students project | 1 | Clo30, Clo31 |
| Follow up plumping of students project | 1 | Clo30, Clo31 |
| Plumping phase of students project | 1 | Clo30, Clo31 |
| Final project (Full drawings of preliminary stage) | 1 | Clo30, Clo31 |

## 10. Matrix of Program PLOs with Course CLOs

| Program PLOs | | Course CLOs | |
|---|---|---|---|
| PLO15 | Prepare design project briefs and documents and understand the architect's context in the construction industry including, This includes his role in the bidding and procurement of architectural services and the production of buildings | **CLO30** | Prepare design project briefs and documents |
| | | **CLO31** | Manage the architect's context in the construction industry including his role in the bidding and procurement of architectural services |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Marwa Emad** | |
| **Head of Department** | **Assoc. Prof. Reham Othman** | |
| **Date of Approval** | **07/10/2023** | |

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# Course Specification

**Course Code: ARE 3103** **Course Title: Theories of Architecture (3)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture department | | | |
| **Department offering the program** | Architecture department | | | |
| **Department offering the course** | Architecture department | | | |
| **Course Code** | ARE 3103 | | | |
| **Year/Level** | Third-year / fourth level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | - | - | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with modern academic and technical skills, cultural knowledge of history, fine arts, and local and international heritage. students will learn about theories and philosophy of the international styles of the 20th and the modern movement (AM3.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO15 | Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams. |
| CLO22 | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies, and human sciences |

## 4. Course Contents

| Topics | Week |
|---|---|
| A general introduction to Architecture in the first half of the twentieth century | 1 |
| The Industrial Revolution and its impact on architectural trends and the creation of new types of buildings | 2 |
| Chicago Louis Sullivan School | 3 |
| Art nouveau and Antonio Gaudi Schoolmulti-cultural | 4 |
| Formalism Theory Part 1 | 5 |
| Formalism Theory Part 2 | 6 |
| Technological theory | 7 |
| Mendelssohn's Expressionist Theory | 8 |
| Organic Theory Part 1 | 10 |
| Organic Theory Part 2 | 11 |
| Structural theory | 12 |
| deconstruction theory Zaha Hadid | 13 |
| deconstruction theory Frank Gerry | 14 |
| The basics of designing models of buildings | 15 |

## 5. Teaching and Learning methods

| Course Learning Outcomes (Los) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brainstorm | E-Learning | Self-learning | Modeling and Simulation |
| CLO15 | | | - | √ | - | √ | | √ | √ | √ | | |
| CLO22 | √ | √ | - | √ | - | √ | | √ | | √ | √ | |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | LOs |
|---|---|---|
| 1 | Attendance | ---------- |
| 3 | Discussions | CLO15-CLO22 |
| 4 | Mid Term Exam | CLO22 |
| 5 | Researches | CLO15-CLO22 |
| 6 | Presentations | CLO15-CLO22 |
| 7 | Quiz | CLO22 |
| 8 | Written exam | CLO22 |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 7 |
| 5 | Researches | 4 & 12 |
| 6 | Presentations | 4 & 12 |
| 7 | Quiz | 4 & 12 |
| 8 | Written exam | 16 |

### 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | %50 | 50 | 5% | 5 |
| | Mid-term exam | | | 20% | 20 |
| | Researches | | | 10% | 10 |
| | Presentations | | | 10% | 10 |
| | Quiz | | | 5% | 5 |
| **Final Exam** | Written exam | %50 | 50 | %50 | 50 |
| **Total** | | %100 | 100 | %100 | 100 |

## 7. List of References


- architecture from Functional to deconstructive ISBN 9789770528464-2023 publisher Anglo-Egyptian Library Muhammad Tawfiq Abdel Gawad
- Salah Zaitoon: The Architecture of the Twentieth Century, 1993. 4th Edition. ISBN-13: 978-1118745083.
- De Bono, E., Serious Creativity (2023): Using the Power of Lateral Thinking to Create New Ideas, Harper Collins, 6th Edition Publisher : Harpercollins. ISBN-13: 978-0887305665
- د/طارق ابو عوف (2015) كتاب المبدأ التصميمي Design concept، مكتبة الأنجلو المصرية.
- Ali Raafat: Content and Form between Rational and Emotional, 2023.


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/LMS |
| Whiteboard |
| Lecture room equipped with e-learning tools (internet, mike, etc.) |
| Data show |

## 9. Matrix of Course Content with Course CLOs

| No. | Topics | Aim | CLO's |
|---|---|---|---|
| 1 | A general introduction to Architecture in the first half of the 20th century | 1 | CLO.22 |
| 2 | The Industrial Revolution and its impact on architectural trends and the creation of new types of buildings | 1 | CLO.22 |
| 3 | Chicago Louis Sullivan School | 1 | CLO.22, |
| 4 | Researches discussion | 1 | CLO.15-CLO.22 |
| 5 | Art nouveau and Antonio Gaudi School | 1 | CLO.22 |
| 6 | Formalism Theory | 1 | CLO.22 |
| 8 | Technological theory | 1 | CLO.22 |
| 9 | Mendelssohn's Expressionist Theory | 1 | CLO.22 |
| 10 | Organic Theory | 1 | CLO.22 |
| 11 | Structural theory | 1 | CLO.22 |
| 12 | Quiz& Researches discussion and presentation | 1 | CLO.15- CLO.22 |
| 13 | deconstruction theory Zaha Hadid ,Frank Gerry | 1 | CLO.22 |
| 14 | revision | 1 | CLO.15-CLO.22, |

| 10. | Matrix of Program LOs with Course CLOs | | |
|---|---|---|---|
| **Program PLOs** | | **Course CLOs** | |
| PLO7 | Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams. | CLO15 | Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams. |
| PLO11 | Create architectural, urban, and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies, and human sciences. | CLO22 | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies, and human sciences |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Assoc Prof. Rania Badawy** | rania 23/12/24 |
| **Head of Department** | **Assoc Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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**Course Specification**

**Course Code: ARE 4103** **Course Title: Housing**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture department | | | |
| **Department offering the program** | Architecture department | | | |
| **Department offering the course** | Architecture department | | | |
| **Course Code** | ARE 4103 | | | |
| **Year/Level** | Fourth year /Fifth Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | 2 | - | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Produce innovative design engineering solutions in many practices field of design and executive architecture engineering and urban planning at the local, regional, and international levels<br>Work efficiently by using data analysis and simulation to produce innovative design engineering solutions in many practices field of Neighbourhood design and executive architecture engineering and urban planning at the local sites, and able to plan, supervise and follow up the implementation of housing projects.<br>Demonstrate various dimensions of housing problems and the range of approaches, policies, and practices that could be carried out to solve this problem. Integrate community design parameters and criteria into architectural design, planning projects, and any related subjects.<br>(AM1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| Clo15 | Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams. |
| Clo21 | Create architectural, urban and planning designs that meet aesthetic and technical requirements |
| Clo23 | Produce designs that meet the requirements of building users |
| Clo24 | Deal with the relation between people, buildings, and their surrounding environment |
| Clo25 | Produce designs with the scale of humanity and its needs |

## 4. Course Contents

| Topics | Week |
|---|---|
| Definitions of shelter and housing - basic human needs and their relationship to population. | 1 |
| Planning and housing regulations | 2 |
| Housing model design considerations | 3 |
| Sustainable neighborhoods | 4 |
| Laws regulating the planning and design of residential areas. | 5 |
| The basics of classifying residential models | 6 |
| The basics of designing residential models (1) | 7 |
| Planning criteria for calculating the carrying capacity of a housing project | 8 |
| The housing problem in Egypt (causes and manifestations) + Research | 10 |
| Attitudes to solving the housing problem in Egypt (politics of preparation - and empowerment) | 11 |
| The basics of designing residential models (2) | 12 |
| Classifications of roads in the neighborhood + Presentation of Research | 13 |
| Submitting Semifinal Project | 14 |
| Submitting Final Project | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| Clo15 | - | √ | - | √ | | √ | | √ | √ | | √ | - |
| Clo21 | | √ | | | √ | | | | √ | √ | | |
| Clo23 | √ | √ | - | √ | √ | √ | √ | √ | √ | √ | √ | - |
| Clo24 | √ | √ | - | | √ | | √ | √ | √ | √ | √ | - |
| Clo25 | - | - | - | - | √ | √ | - | - | - | √ | - | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | ------- |
| 2 | Written exam | **Clo15, Clo21, Clo23, Clo24, Clo25** |
| 3 | Discussions | **Clo15, Clo23, Clo24** |
| 4 | Mid Term Exam | **Clo15, Clo21, Clo23, Clo24** |
| 5 | Class works | **Clo15, Clo21, Clo23, Clo24** |
| 6 | Projects | **Clo21, Clo23, Clo24, Clo25** |
| 7 | Researches | **Clo15, Clo23** |
| 8 | Reports | - |
| 9 | Presentations | **Clo15, Clo23, Clo25** |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | - |
| 7 | Researches | 14,15 |
| 8 | Reports | - |
| 9 | Presentations | 13 |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 60% | 60 | 5% | 5 |
| | Class works | | | 10% | 10 |
| | Projects | | | 10% | 10 |
| | Researches | | | 5% | 5 |
| | Presentations | | | 10% | 10 |
| | Mid-term exam | | | 20% | 20 |
| **Final Exam** | Written exam | 40% | 40 | 40% | 40 |
| **Total** | | 100% | 100 | 100% | 100 |

## 7. List of References

1. Didem Ekici, Jonathan Hale, Katharina Borsi, Nick Haynes," Housing and The City", 1st edition, Routledge, Taylor & Francis Group, UK,2022, SBN:9781003245216, 1003245218
2.N.J. Habraken – The Structure of the Ordinary: Form and Control in the Built Environment, MIT Press ,2020, ISBN:9780262581950, 0262581957.
3. Nagwa Ibrahim Mahmoud (Public Politics and Political Change in Egypt) Ibn Khaldoun Center for German Studies - Cairo - 1994Geoffrey Randall," Housing Rights Guide "Shelter; Revised edition, England,2010, ISBN:9781903595992, 190359599.

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/LMS |
| White board |
| Lecture room equipped with e-learning tools (internet, mike, etc.) |
| Data show |

## 9. Matrix of Course Content with Course LOs

| Topics | Aim | LO's |
|---|---|---|
| Definitions of shelter and housing - basic human needs and their relationship to population. | 1 | **Clo23, Clo24** |
| Planning and housing regulations | 1 | **Clo23, Clo24** |
| Housing model design considerations | 1 | **Clo23, Clo24** |
| Sustainable neighborhoods | 1 | **Clo23, Clo24** |
| Laws regulating the planning and design of residential areas. | 1 | **Clo23, Clo24** |
| The basics of classifying residential models | 1 | **Clo23, Clo24** |
| The basics of designing residential models (1) | 1 | **Clo23, Clo24** |
| Planning criteria for calculating the carrying capacity of a housing project | 1 | **Clo23, Clo24, Clo25** |
| The housing problem in Egypt (causes and manifestations) + Research | 1 | **Clo15, Clo21, Clo23, Clo24, Clo25** |
| Attitudes to solving the housing problem in Egypt (politics of preparation - and empowerment) | 1 | **Clo23, Clo24** |
| The basics of designing residential models (2) | 1 | **Clo23, Clo24** |
| Classifications of roads in the neighborhood + Presentation of Research | 1 | **Clo23, Clo24** |
| Submitting Semifinal Project | 1 | **Clo15, Clo21, Clo23, Clo24, Clo25** |
| Submitting Final Project | 1 | **Clo15, Clo21, Clo23, Clo24, Clo25** |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| Plo7 | Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams. | Clo15 | Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams. |
| Plo11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences. | Clo21 | Create architectural, urban and planning designs that meet aesthetic and technical requirements |
| Plo12 | Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs | Clo23 | Produce designs that meet the requirements of building users |
| | | Clo24 | Deal with the relation between people, buildings, and their surrounding environment |
| | | Clo25 | Produce designs with the scale of humanity and its needs |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Assoc. Prof. Rania Badawy**<br>**Dr. Nesma Helmly** | rania 23/12/24 |
| **Head of Department** | **Assoc. Prof. Reham Osman** | Dr Reham |
| **Date of Approval** | **7/10/2023** | برنامج الهندسة المعمارية المعهد العالي للهندسة والتكنولوجيا بالتجمع الخامس |

# Course Specification

**Course Code: ARE 4104** **Course Title: Feasibility Studies & Project Management**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 4104 | | | |
| **Year/level** | Forth year / Fifth level | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 1 | - | 3 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Use data analysis, objective engineering judgment (AM1.1) |
| 2 | Use scientific methods that ensure meeting the needs of present and future generations in terms of economic aspects (AM2.2) |
| 3 | link between the participating sectors in the construction and development operation of urban communities and between the graduates of the program in the fields of practical training, entrepreneurship, and project management. (AM4.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| **Clo4** | assess data by using statistical analyses to draw conclusions. |
| **Clo5** | evaluate findings by using statistical analyses and objective engineering judgment. |
| **Clo12** | Practice research techniques and methods of investigation as an inherent part of learning. |
| **Clo28** | Transform design concepts into buildings and integrating plans into comprehensive planning within restrictions: Financing issues and Project management |
| **Clo29** | integrate plans within restrictions with regulations |

## 4. Course Contents

| Topics | Week |
|---|---|

| | |
|---|---|
| Studying the Importance of feasibility studies in making decisions. | 1 |
| Studying Types of feasibility studies. | 2 |
| Analyzing case studies of feasibility studies in architecture projects. | 3 |
| Educating introduction to management, Historical view and evolution of concepts. | 4-5 |
| Educating Basic Managerial Functions. | 6 |
| Studying project Management knowledge area | 7 |
| Studying BOQ. | 8 |
| Educating the Cost analysis, estimating cost based on previous projects. | 10 |
| Create Planning and Time scheduling of project activities by Bar chart. | 11 |
| Create Planning and Time scheduling of project activities by CPM method. | 12 |
| Investigates and explores project management processes. | 13 |
| Developing the skills of making alternative plans to avoid risks concerning all related design aspects and approaches. | 14 |
| Select appropriate solutions based on analytical thinking for all related disciplines to architecture. | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| **Clo4** | √ | √ | - | √ | - | √ | - | √ | - | - | - | - |
| **Clo5** | √ | √ | - | √ | - | √ | - | √ | - | - | - | - |
| **Clo12** | √ | √ | - | √ | - | √ | - | √ | - | | - | - |
| **Clo28** | √ | - | - | - | - | - | - | √ | - | - | √ | - |
| **Clo29** | √ | √ | - | √ | - | - | - | √ | - | - | - | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | **Clo4, Clo12, Clo28** |
| 3 | Discussions | - |
| 4 | Mid Term Exam | **Clo4,Clo5, Clo12** |
| 5 | Class works | **Clo4,Clo5, Clo12, Clo29** |
| 6 | Projects | - |

| | | |
|---|---|---|
| 7 | Researches | **Clo4,Clo5, Clo12, Clo29** |
| 8 | Reports | - |
| 9 | Presentations | **Clo4,Clo5, Clo12** |
| 10 | Quiz | **Clo4** |
| 11 | Skiz | - |

**6.2 Assessment Schedule**

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | 7-12 |
| 6 | Projects | - |
| 7 | Researches | 3-14 |
| 8 | Reports | - |
| 9 | Presentations | 3-14 |
| 10 | Quiz | 5 |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Class works | %50 | 50 | %10 | 10 |
| | Researches | | | %10 | 10 |
| | Presentation | | | %5 | 5 |
| | Quiz | | | %5 | 5 |
| | Mid-term exam | | | %20 | 20 |
| **Final Exam** | Written exam | %50 | 50 | %50 | 50 |
| **Total** | | %100 | 100 | %100 | 100 |

## 7. List of References


- Michael Kulwin, “Feasibility Studies in Construction Projects: Practice and Procedure”. Practical Construction Guides, Informa Law, 2011, ISBN: 978-0415715263.
- DAVID CHAPELL & ANDREW WILLS,” The Architect in Practice” Feasibility Study & Project Management: A Practical Guide - Arabic Edition. Paperback – January 2, 2019, ISBN: 978-1-118-90770-2
- A Guide to the Project Management Body of Knowledge (PMBOK® Guide), by Project Management Institute , . Seventh Edition 2021, ISBN: 978-1628251845.
- د. ابراهيم عبد الرشيد ,"اداره مشروعات التشييد"- 2009.

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Studying the Importance of feasibility studies in making decisions. | 1 | **Clo5** |
| Studying Types of feasibility studies. | 1 | **Clo5** |
| Analyzing case studies of feasibility studies in architecture projects. | 1 | **Clo4,Clo5** |
| Educating introduction to management, Historical view and evolution of concepts. | 2 | **Clo12** |
| Educating Basic Managerial Functions. | 2 | **Clo12** |
| Studying project Management knowledge area | 2 | **Clo4** |
| Studying BOQ. | 2 | **Clo12** |
| Educating the Cost analysis, estimating cost based on previous projects. | 2 | **Clo12, Clo28** |
| Create Planning and Time scheduling of project activities by Bar chart. | 1-2 | **Clo4,Clo12, Clo28** |
| Create Planning and Time scheduling of project activities by CPM method. | 1-2-3 | **Clo4,Clo12, Clo28** |
| Investigates and explores project management processes. | 2-3 | **Clo4** |
| Developing the skills of making alternative plans to avoid risks concerning all related design aspects and approaches. | 2-3 | **Clo12, Clo28, Clo29** |
| Select appropriate solutions based on analytical thinking for all related disciplines to architecture. | 2-3 | **Clo12, Clo28, Clo29** |

## 10. Matrix of Program LOs with Course Los

| Program LOs | | Course Los | |
|---|---|---|---|
| Plo2 | Develop and conduct appropriate experimentation and/or simulation, analyse and interpret data, assess, | **Clo4** | assess data by using statistical analyses to draw conclusions. |

| | | | |
|---|---|---|---|
| | and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions. | **Clo5** | evaluate findings by using statistical analyses and objective engineering judgment. |
| Plo5 | Practice research techniques and methods of investigation as an inherent part of learning. | **Clo12** | Practice research techniques and methods of investigation as an inherent part of learning. |
| Plo14 | Transforming design concepts into buildings and integrating plans into comprehensive planning within restrictions: Financing Project - Project management - Cost control - Project delivery methods, having sufficient knowledge relevant industries, organizations, regulations and procedures. | **Clo28** | Transform design concepts into buildings and integrating plans into comprehensive planning within restrictions: Financing issues and Project management |
| | | **Clo29** | integrate plans within restrictions with regulations |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Assocc. Prof. Reham Othman** | |
| **Head of Department** | **Assocc. Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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**Course Specification**

**Course Code: ARE 4201** **Course Title: Project Studies & Technical Report**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE **4201** | | | |
| **Year/level** | Fourth year (5th Level) | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 1 | 1 | 0 | 2 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Apply the students for innovative and creative thinking, describing and solving design problems and requirements using scientific methods to analysis similar architectural projects for many aspects as social, cultural, environmental, and economic aspects as an entry point for achieving sustainable development and applying it to architectural projects. (AM2.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| Clo15 | Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams. |
| Clo16 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. |
| Clo19 | Acquire new knowledge. |
| Clo20 | Practice self, lifelong and other learning strategies. |
| Clo28 | Transform design concepts into buildings and integrating plans into comprehensive planning within restrictions: Financing issues and Project management |
| Clo29 | Transform design concepts into buildings and integrating plans within restrictions with regulations |

## 4. Course Contents

| Topics | Week |
|---|---|
| How to prepare the necessary introductive studies for the graduation project | 1 |
| Specify "Vision – Mission – Aim – Goal" of the project subject. | 2 |
| History and Growth of the project subject and its importance. | 3 |
| Types of the project subject and discuss the benefits and advantages. | 4 |
| Site Analysis and the location of the project. | 5 |
| Standards of the project component and spaces program | 6 |
| Case studies of similar global projects | 7 |
| Case studies of similar local projects | 8 |
| Smart materials and solutions for sustainable architecture | 10 |
| Leeds, sustainability design concept and environmental design | 11 |
| Structural systems | 12 |
| Revision all the research | 13 |
| Semi Final Research | 14 |
| Oral Exam | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| Clo15 | - | - | - | √ | - | √ | - | √ | - | - | - | - |
| Clo16 | - | - | - | √ | - | √ | - | √ | - | - | - | - |
| Clo19 | √ | - | - | √ | - | √ | - | √ | - | - | - | - |
| Clo20 | - | - | - | - | - | - | - | √ | √ | - | √ | - |
| Clo28 | √ | - | - | √ | - | √ | - | - | - | - | √ | - |
| Clo29 | - | - | - | √ | - | √ | - | - | √ | - | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Oral exam | Clo15, Clo16, Clo19, Clo20, Clo28, Clo29 |
| 3 | Discussions | Clo15, Clo16, Clo19, Clo20 |

| | | |
|---|---|---|
| 4 | Mid Term Exam | Clo16, Clo28 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | Clo15, Clo16, Clo19, Clo28, Clo29 |
| 8 | Reports | - |
| 9 | Presentations | Clo15, Clo16, Clo19, Clo28, Clo29 |
| 10 | Quiz | - |
| 11 | Skiz | - |

**6.2 Assessment Schedule**

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Oral exam | 15 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | weekly |
| 8 | Reports | - |
| 9 | Presentations | weekly |
| 10 | Quiz | - |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 60 | 60 | 10 | 10 |
| | Researches | | | 20 | 20 |
| | Presentations | | | 10 | 10 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Oral Exam | 40 | 40 | 40 | 40 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] AM Awai, "Architecture Design Project Book: Create & Design your upcoming projects", Independently published, 2021, ISBN -13 : 979-8481920344
[2] Nicola Leonardi, "Contemporary Architecture in Detail: Sustainable architecture", HOAKI Publisher, 2021, ISBN: 9788417656430

[3] Joseph De Chiara, Michael J. Crosbie, "Time-Saver Standards for Building Types", 7th Edition, United States of America, 2001, ISBN:9780070163874, 0070163871.
[4] Ernst Neufert, Peter Neufert, Bousmaha Baiche, Nicholas Walliman, "Neufert s Architects Data" 4th Edition", Wiley–Blackwell, 2012, ISBN:9781405192538, 1405192534.
[5] Janet Owens, "Report Writing", published by Directory Of Social Change, London, 2011, ISBN:9781906294168, 190629416X.

## 8.Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| How to prepare the necessary introductive studies for the graduation project | 1 | Clo19 |
| Specify "Vision – Mission – Aim – Goal" of the project subject. | 1 | Clo15, Clo16 |
| History and Growth of the project subject and its importance. | 1 | Clo15, Clo16, Clo19 |
| Types of the project subject and discuss the benefits and advantages. | 1 | Clo15, Clo16, Clo19 |
| Site Analysis and the location of the project. | 1 | Clo16, Clo19, Clo20 |
| Standards of the project component and spaces program | 1 | Clo19, Clo20 |
| Case studies of similar global projects | 1 | Clo19, Clo20, Clo28, Clo29 |
| Case studies of similar local projects | 1 | Clo19, Clo20, Clo28, Clo29 |
| Smart materials and solutions for sustainable architecture | 1 | Clo19, Clo20, Clo28, Clo29 |
| Leeds, sustainability design concept and environmental design | 1 | Clo19, Clo20, Clo28, Clo29 |
| Structural systems | 1 | Clo19, Clo20, Clo28, Clo29 |
| Revision all the research | 1 | Clo19, Clo20, Clo28, Clo29 |
| Semi Final Research | 1 | Clo19, Clo20, Clo28, Clo29 |
| Oral Exam | 1 | Clo19, Clo20, Clo28, Clo29 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| Plo7 | Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams. | Clo15 | Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams. |
| Plo8 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. | Clo16 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. |
| Plo10 | Acquire and apply new knowledge; and practice self, lifelong and other learning strategies. | Clo19 | Acquire and apply new knowledge. |
| | | Clo20 | Practice self, lifelong and other learning strategies. |
| Plo14 | Transforming design concepts into buildings and integrating plans into comprehensive planning within restrictions: Financing Project - Project management - Cost control - Project delivery methods, having sufficient knowledge relevant industries, organizations, regulations and procedures. | Clo28 | Transform design concepts into buildings and integrating plans into comprehensive planning within restrictions: Financing issues and Project management |
| | | Clo29 | Transform design concepts into buildings and integrating plans within restrictions with regulations |

| Title | Name | Signature |
|---|---|---|
| Course coordinator | Prof. Ahmed Yehia | |
| | Prof. Usama Nassar | |
| | Dr. Hadeel Mahmoud | |
| Head of Department | Assocc. Prof. Reham Othman | |
| Date of Approval | 7/10/2023 | |

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**Course Specification**

**Course Code: Are 4102 Course Title: Working Drawings (3)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 4102 | | | |
| **Year/level** | Forth year /Fifth Level | | | |
| **Specialization** | Major | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | - | 8 | - | 8 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with modern academic and technical skills, whether through to implement more inclusive projects by design working drawings while exploiting modern technologies. (AM3.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| **Clo30** | Prepare design project briefs and documents |
| **Clo31** | Manage the architect's context in the construction industry including his role in the bidding and procurement of architectural services |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction to working drawings | 1 |
| Building structure systems for long spans | 2 |
| The documents set of a preliminary working projects | 3 |
| Illustrate details of: Construction, Finishes and maintenance. | 4 |
| Release of the project | 5 |
| Plans drawings: Basement floor plan +Ground floor plan +First floor plan typical floor plan | 6 |
| Section / wall section drawings | 7 |
| Elevation drawings | 8 |

| | |
|---|---|
| Layout: Soft scape & hard scape | 10 |
| Details of certain and specific points of the project | 11 |
| Electrical shop Drawings | 12 |
| Plumbing shop Drawings | 13 |
| Semi Final Submission | 14 |
| Final Submission and project presentation | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research | Projects | Presentation | Site Visits | Discussion | Brain storm | E-Learning | Self-learning | Modeling and simulation |
| **Clo30** | √ | | - | √ | √ | - | - | √ | - | - | √ | - |
| **Clo31** | √ | √ | - | | √ | - | - | √ | - | - | | - |

## 6.Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | ---------- |
| 2 | Mid Term Exam | **Clo30, Clo31** |
| 3 | Researches | **Clo30** |
| 4 | Projects | **Clo30, Clo31** |
| 5 | Classwork | **Clo31** |
| 6 | Written Exam | **Clo30, Clo31** |

### 6.2 Assessment Schedule

| No | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | ---------- |
| 2 | Mid Term Exam | 9 |
| 3 | Researches | 8,13 |
| 4 | Projects | From week 6 to week 15 |
| 5 | Classwork | weekly |
| 8 | Written Exam | 16 |

| 6.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| **Teacher Opinion** | Attendance | 60 | 60 | -- | -- |
| | Mid Term Exam | | | 20 | 20 |
| | Researches | | | 10 | 20 |
| | Classwork | | | 10 | 10 |
| | Project | | | 20 | 20 |
| **Final Exam** | Written exam | 40 | 40 | 40 | 40 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] McKay B.(2004) .McKay's Building Construction.Publisher: Routledge; 1st edition, 2004, ISBN-13 : 978-1873394724
[2] Chudley, R. & Greeno,R. (2005). Construction Technology (4th ed.) Publisher : Prentice Hall .ISBN-10 : 0131286420, Library Book Code:A-a/16
[3] Capeluto G. & Emesto C.(2017). Intelligent Envelopes for High-Performance Buildings: Design and Strategy (Green Energy and Technology). Publisher: Springer ASIN : B01MXJ8HBN
[4] Hugh Seaton, (2021) "The Construction Technology Handbook", 1st edition, Publisher:Wiley, ISBN-10 : 111971995X

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture hall |
| White board |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Introduction to working drawings | 1 | **Clo30** |
| Building structure systems for long spans | 1 | **Clo30** |
| The documents set of a preliminary working projects | 1 | **Clo30** |
| Illustrate details of: Construction, Finishes & maintenance. | 1 | **Clo30** |
| Release of the project | 1 | **Clo30, Clo31** |
| Plans drawings: Basement floor plan +Ground floor plan +First floor plan typical floor plan | 1 | **Clo30, Clo31** |
| Section / wall section drawings | 1 | **Clo30, Clo31** |
| Elevation drawings | 1 | **Clo30, Clo31** |
| Layout: Soft scape & hard scape | 1 | **Clo30, Clo31** |

| | | |
|---|---|---|
| Details of certain and specific points of the project | 1 | **Clo30, Clo31** |
| Electrical shop Drawings | 1 | **Clo30** |
| Plumbing shop Drawings | 1 | **Clo30** |
| Semi Final Submission and project presentation | 1 | **Clo30, Clo31** |
| Final Submission and project presentation | 1 | **Clo30, Clo31** |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| Plo15 | Prepare design project briefs and documents and understand the architect's context in the construction industry including, This includes his role in the bidding and procurement of architectural services and the production of buildings | **Clo30** | Prepare design project briefs and documents |
| | | **Clo31** | Manage the architect's context in the construction industry including his role in the bidding and procurement of architectural services |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Yasmin Talaat Ismail** | |
| **Head of Department** | **Assoc Prof. Dr. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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**Course Specification**

**Course Code: ARE 4101** **Course Title: Architectural Design (6)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 4101 | | | |
| **Year/level** | Fourth year / Fifth Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 0 | 10 | 0 | 10 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with the capacity to prepare flexible and ecologically responsible designs by understanding modern structural and technological designs. (AM5.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| **Clo21** | Prepare environmentally responsible designs to preserve and rehabilitate the environment of the project. |
| **Clo23** | choose the structural design, construction, technology used |
| **Clo24** | Transform design concepts into buildings and integrating plans into comprehensive planning within restrictions: Financing issues and Project management |
| **Clo25** | Transform design concepts into buildings and integrating plans within restrictions with regulations |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction of the project | 1 |
| Research for the Project | |
| Research Presentation | 2 |
| Project Zoning | |
| Layout 1/500 | 3 |
| Layout 1/500 | |
| Layout 1/500 + Ground floor plan 1/400 | 4 |
| Layout 1/500 + Ground floor plan 1/400 | |
| Layout 1/500 + Ground floor plan 1/400 | 5 |
| Layout 1/500 + Ground floor plan 1/400 | |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200 | 6 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200 | |
| sections 1/200 + Elevations 1/200 | 7 |
| sections 1/200 + Elevations 1/200 | |
| sections 1/200 + Elevations 1/200 | 8 |

| | |
|---|---|
| sections 1/200 + Elevations 1/200 | |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective | 10 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective | |
| All Project observation | 11 |
| All Project observation | |
| All Project observation | 12 |
| All Project observation | |
| All Project observation | 13 |
| All Project observation | |
| All Project observation | 14 |
| All Project observation | |
| Semifinal project | 15 |
| All Project observation | |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO21 | √ | | - | √ | | √ | - | √ | - | | | - |
| CLO23 | | √ | - | | √ | | - | √ | - | √ | √ | - |
| CLO24 | | - | - | | - | | - | √ | - | - | - | - |
| CLO25 | | √ | | | √ | | | | | √ | √ | |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | **Clo21, Clo23, Clo24** |
| 3 | Discussions | **Clo21, Clo23, Clo24** |
| 4 | Mid Term Exam | **Clo23, Clo24** |
| 5 | Class works | **Clo23, Clo25** |
| 6 | Projects | **Clo23, Clo25** |
| 7 | Researches | **Clo21** |
| 8 | Reports | - |
| 9 | Presentations | **Clo21** |
| 10 | Quiz | - |
| 11 | Skiz | - |

| 6.2 Assessment Schedule | | |
|---|---|---|
| No. | **Assessment Method** | **Weeks** |
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | 15 |
| 7 | Researches | 2 |
| 8 | Reports | - |
| 9 | Presentations | 2 |
| 10 | Quiz | - |
| 11 | Skiz | - |

| 6.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| **Teacher Opinion** | Discussions | 60 | 60 | 3 | 3 |
| | Class works | | | 10 | 10 |
| | Projects | | | 20 | 20 |
| | Researches | | | 5 | 5 |
| | Presentations | | | 2 | 2 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Written exam | 40 | 40 | 40 | 40 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] Lee Hwa-Jeong, (2020), "ACA: Architecture competition annual. Vol 14 (Education / Culture/ Welfare & Sports)", Published by Archiworld Co.Ltd, Seoul, South Korea , ISBN-13: 978-8957708194.

[2] Frohlich,A. & Lippok,S., (2019), "Plans and Images: An Archive of Projects on Typology in Architecture" 2013-2018, Germany, ISBN: 9783038601388.

[3] Ernst Neufert, Peter Neufert, Bousmaha Baiche, Nicholas Walliman, (2012), "Neuferts Architects Data 4th Edition", published by Wiley–Blackwell, ISBN-13: 978-1405192538.

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/LMS |
| White board |
| Google Class Room |
| Data show |

## 9. Matrix of Course Content with Course LO's

| **Topics** | **Aim** | **CLO's** |
|---|---|---|
| Introduction of the project | 1 | **Clo21** |

| | | |
|---|---|---|
| Research for the Project | | |
| Research Presentation<br>Project Zoning | 1 | **Clo21, Clo23** |
| Layout 1/500<br>Layout 1/500 | 1 | **Clo21, Clo23** |
| Layout 1/500 + Ground floor plan 1/400<br>Layout 1/500 + Ground floor plan 1/400 | 1 | **Clo21, Clo23** |
| Layout 1/500 + Ground floor plan 1/400<br>Layout 1/500 + Ground floor plan 1/400 | 1 | **Clo21, Clo23** |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200<br>Layout 1/500 + Ground floor plan 1/200 + sections 1/200 | 1 | **Clo21, Clo23** |
| sections 1/200 + Elevations 1/200<br>sections 1/200 + Elevations 1/200 | 1 | **Clo21, Clo23, Clo24** |
| sections 1/200 + Elevations 1/200<br>sections 1/200 + Elevations 1/200 | 1 | **Clo21, Clo23, Clo24** |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective<br>Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective | 1 | **Clo21, Clo23, Clo24, Clo25** |
| All Project observation<br>All Project observation | 1 | **Clo21, Clo23, Clo24, Clo25** |
| All Project observation<br>All Project observation | 1 | **Clo21, Clo23, Clo24, Clo25** |
| All Project observation<br>All Project observation | 1 | **Clo21, Clo23, Clo24, Clo25** |
| All Project observation<br>All Project observation | 1 | **Clo21, Clo23, Clo24, Clo25** |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| Plo11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences. | CLO21 | Create architectural, urban and planning designs that meet aesthetic and technical requirements |
| Plo12 | Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs | CLO23 | Produce designs that meet the requirements of building users |
| | | CLO24 | Deal with the relation between people, buildings, and their surrounding environment |
| | | CLO25 | Produce designs with the scale of humanity and its needs |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Prof. Dr. Ahmed Yehia**<br>**Prof. Dr. Usama Nassar**<br>**Dr. Hadeer Abdelsamie** | |
| **Head of Department** | **Associa. Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

برنامج الهندسة المعمارية
المعهد العالي للهندسة والتكنولوجيا
بالتجمع الخامس

**Course Specification**

**Course Code: PHM0204** **Course Title: Chemistry**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Department | | | |
| **Department offering the program** | Architecture Engineering Department | | | |
| **Department offering the course** | Engineering Mathematics and Physics department | | | |
| **Course Code** | PHM0204 | | | |
| **Prerequisite** | None | | | |
| **Year/level** | Prep year / (First level) | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | 1 | 1 | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Train the students for innovative and creative thinking, describing basic principles, laws and theories of physical Chemistry, applied chemistry, Quantitative and theoretical study of the properties and structure of matter, which are necessary for engineering students(AM2.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO 1 | Identify and formulate complex engineering problems by applying engineering fundamentals and basic science such as bonding, molecular geometry, chemical formulas, stoichiometry, gas laws, thermochemistry, and thermodynamics |
| CLO 2 | Develop and conduct appropriate experimentation and/or simulation to draw conclusions regarding chemical structure |
| CLO9 | Utilize contemporary technologies and basic principles and methods of chemistry, such as the metric system, scientific notation and significant figures, the atom and atomic theories and trends of the periodic table of the elements, |

## 4 Course Contents

| Topics | Week |
|---|---|
| States of matter. | 1 |
| Gases. | 2 |
| Work done of gases. | 3 |
| Liquids. | 4 |
| Solid. | 5 |
| Solutions. | 6 |
| Thermochemistry. | 7 |
| Application on thermochemistry. | 8 |
| Laws of thermodynamics. | 10 |
| Application on thermodynamics. | 11 |
| Chemistry of Cement. | 12 |
| Water hardness and its treatment. | 13 |
| Revision. | 14 |

**5. Teaching and Learning methods**

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research | Projects | Presentation | Site Visits | Discussion | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO 1 | √ | - | - | √ | - | - | - | - | - | - | - | - |
| CLO 2 | √ | - | - | √ | - | - | - | - | - | - | - | - |
| CLO9 | √ | - | - | - | - | - | - | - | - | - | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO1-CLO 2-CL09 |
| 3 | Discussions | -- |
| 4 | Mid Term Exam | CLO1-CLO 2-CL09 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | CLO1-CLO 2 |
| 9 | Presentations | - |

**6.2 Assessment Schedule**

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | Weekly |
| 9 | Presentations | - |
| 10 | Quiz | 8 |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 40% | 40 | -- | - |
| | Class works | | | - | - |
| | Projects | | | - | - |
| | Reports | | | 10% | 10 |
| | Presentations | | | - | - |
| | Quiz | | | 10% | 10 |
| | Mid-term exam | | | 20% | 20 |
| **Final Exam** | Written exam | 60% | 60 | 60% | 60 |
| **Total** | | 100% | 150 | 100% | 100 |

## 8. List of References

[1] Atkins. Peter, Julio de Paula, James Keeler, "Physical chemistry ", 11th ed , Oxford University Press, 2019.
[2] I.N. Levine, " Physical chemistry", 6th ed, The McGraw-Hill Companies, 2009.

[3] Francis A Carey, Robert M Giuliano, 11th ed, Mc Graw Hill Education, 2017.

## 9. Facilities required for teaching and learning

| |
|---|
| Lecture |
| White board |

## 10. Matrix of Course Content with Course CLO's

| Topics | Aim | CLO's |
|---|---|---|
| States of matter<br>**Lab1**:Introduction | 1 | CLO1,CLO2,CLO9 |
| Gases.<br>**Lab2**:Determination of the concentration of sodium hydroxide solution using standard solution of hydrochloric acid. | 1 | CLO2,CLO9 |
| Work done of gases.<br>**Lab2**:Determination of the concentration of sodium hydroxide solution using standard solution of hydrochloric acid. | 1 | CLO2,CLO9 |
| Liquids.<br>**Lab3**:Determination of the concentration of sodium carbonate solution by using a standard solution of hydrochloric acid. | 1 | CLO2 |
| Solid.<br>**Lab3**:Determination of the concentration of sodium carbonate solution by using a standard solution of hydrochloric acid. | 1 | CLO2 |
| Solutions.<br>**Lab4**:Determination of total hardness of water. | 1 | CLO1,CLO2 |
| Thermochemistry.<br>**Lab4**:Determination of total hardness of water. | 1 | CLO2,CLO9 |
| Laws of thermodynamics.<br>**Lab5**:Identification of the acidic radical (Anions). | 1 | CLO2,CLO9 |
| Midterm. | 1 | CLO2,CLO9 |
| Application on thermochemistry.<br>**Lab5**:Identification of the acidic radical (Anions). | 1 | CLO2,CLO9 |
| Application on thermodynamics.<br>**Lab6**:Identification of the basic radical (Cations) first group. | 1 | CLO2,CLO9 |
| Chemistry of Cement.<br>**Lab6**:Identification of the basic radical (Cations) first group. | 1 | CLO1,CLO2 |
| Water hardness and its treatment.<br>**Lab7**:Identification of the basic radical (Cations) second group. | 1 | CLO1,CLO2 |
| Revision.<br>**Lab6**:Identification of the basic radical (Cations) second group. | 1 | CLO1,CLO2 |

## 11. Matrix of Program PLOs with Course CLOs

| Program PLOs | | Course CLOs | |
|---|---|---|---|
| PLO1 | Identify, formulate, and solve complex engineering problems by applying engineering fundamentals and basic science | CLO 1 | Identify and formulate complex engineering problems by applying engineering fundamentals and basic science such as bonding, molecular geometry, chemical formulas, stoichiometry, gas laws, thermochemistry, and thermodynamics |
| | | CLO 2 | Develop and conduct appropriate experimentation and/or simulation to draw conclusions regarding chemical structure |
| PLO4 | Utilize contemporary technologies and basic principles and methods of chemistry | CLO 9 | Utilize contemporary technologies and basic principles and methods of chemistry, such as the metric system, scientific notation and significant figures, the atom and atomic theories and trends of the periodic table of the elements, |

| Title | Name | ignature |
|---|---|---|
| **Course coordinator** | **Ass.Prof. Dr. Rehab Ali** | |
| **Program coordinator** | **Dr.Hend Ali** | |
| **Head of Department** | **Ass.Prof.Dr.Reham Othman** | |
| **Date of Approval** | **/9/2023** | |

برنامج الهندسة المعمارية
المعهد العالي للهندسة والتكنولوجيا
بالتجمع الخامس

**Course Specification**

**Course Code: MCE 0201** **Course Title: Engineering drawing & projection (2)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Depart. | | | |
| **Department offering the program** | Architecture Engineering Depart. | | | |
| **Department offering the course** | Engineering Mathematics and Physics department | | | |
| **Course Code** | MCE 0201 | | | |
| **Prerequisites** | None | | | |
| **Year/level** | Prep. Year / First Level | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 4 | 0 | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Use the basic knowledge and skills of the concepts and principles of engineering drawing and fundamental of drawing projections. The basic principles of drawing with several applications are also studied. Work efficiently by using data analysis, objective engineering judgment. (AM1.1) |

## 3. Learning Outcomes (LOs)

| | |
|---|---|
| CLO 3 | Identify and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| CLO 4 | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| CLO16 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. |
| CLO17 | Use creative, innovative, and flexible thinking to respond to new situations. |
| CLO18 | Acquire entrepreneurial and leadership skills to anticipate new situations. |

## 4 Course Contents

| Topics | Week |
|---|---|
| Review on the drawing of the third projector with the knowledge of the other projections. | 1 |
| How to make a section in the engineering drawing. | 2 |
| Definition of the different Types in section bodies. | 3 |
| Definition of the different Types in section bodies. | 4 |
| Intersections of bodies and surfaces and development of surfaces. | 5 |
| How to draw the screw and nut in screwed joints. | 6 |
| Drawing of the sections for different types of screwed joints. | 7 |
| Drawing of the sections for different types of screwed joints. | 8 |
| Identification for different of steel sections. | 10 |
| Identification for different of steel sections. | 11 |
| Drawing of the sections for different types of steel joints. | 12 |
| Drawing of the sections for different types of steel joints. | 13 |
| Assembly of some mechanical components. | 14 |
| Assembly of some mechanical components. | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO 3 | √ | - | - | √ | - | - | - | - | - | - | - | - |
| CLO 4 | √ | - | - | √ | - | - | - | - | - | - | - | - |
| CLO16 | √ | - | - | √ | - | - | - | - | - | - | √ | - |
| CLO17 | √ | - | - | √ | - | - | - | - | - | - | √ | - |

# 6. Students' Assessment

## 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO3,CLO4,CLO16,CLO17,CLO18 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | CLO3,CLO4,CLO16 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | CLO3,CLO4,CLO16,CLO17,CLO18 |
| 9 | Presentations | - |
| 10 | Quiz | CLO3,CLO4 |
| 11 | Skiz | - |

## 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | Weekly |
| 9 | Presentations | - |
| 10 | Quiz | 8 |
| 11 | Skiz | - |

| 6.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| **Teacher Opinion** | Discussions | 40% | 40 | -- | - |
| | Class works | | | - | - |
| | Projects | | | - | - |
| | Reports | | | 10% | 10 |
| | Presentations | | | - | - |
| | Quiz | | | 10% | 10 |
| | Mid-term exam | | | 20% | 20 |
| **Final Exam** | Written exam | 60% | 60 | 60% | 60 |
| **Total** | | 100% | 150 | 100% | 100 |

## 8. List of References

[1] C. Simmons, D. Maguive, and N. Phelps, 'Manual of Engineering Drawing', Elsevier Ltd., 2009.

[2] Frederick Giesecke et al, Technical drawing. TenthEdition,Prentice Hall. (2011)

[3] Mahesh Chandra Luintel,Engineering Drawing II, Heritage Publishers and Distributors Pvt. Ltd.,(2019),ISBN: 978-9937-9365-1-4

## 9. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |

## 10. Matrix of Course Content with Course CLO's

| Topics | Aim | CLO's |
|---|---|---|
| Review on the drawing of the third projector with the knowledge of the other projections. | 1 | CLO3 |
| How to make a section in the engineering drawing. | 1 | CLO3,CLO18 |
| Definition of the different Types in section bodies. | 1 | CLO4,CLO17,CLO18 |
| Definition of the different Types in section bodies. | 1 | Clo3, Clo17, clo18. |
| Intersections of bodies and surfaces and development of surfaces. | 1 | Clo3, Clo17, clo18. |
| How to draw the screw and nut in screwed joints. | 1 | Clo3, Clo17, clo18. |
| Drawing of the sections for different types of screwed joints. | 1 | Clo3, Clo17, clo18. |
| Drawing of the sections for different types of screwed joints. | 1 | Clo3, Clo17. |

| | | |
|---|---|---|
| Identification for different of steel sections. | 1 | Clo3, Clo17. |
| Identification for different of steel sections. | 1 | Clo3, clo4, clo16 , Clo17, clo18. |
| Drawing of the sections for different types of steel joints. | 1 | Clo3, clo4, clo16 , Clo17, clo18. |
| Drawing of the sections for different types of steel joints. | 1 | Clo3, clo4, clo16 , Clo17, clo18. |
| Assembly of some mechanical components. **Tutorials :Mid term** | 1 | Clo3, clo4, clo16 , Clo17, clo18. |
| Assembly of some mechanical components. | 1 | Clo3, clo4, clo16 , Clo17, clo18. |

## 11. Matrix of Program PLOs with Course CLOs

| Program PLOs | | Course CLOs | |
|---|---|---|---|
| Plo2 | Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics. | CLO 3 | Identify and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| | | CLO 4 | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| Plo8 | Communicate effectively graphically, verbally and in writing – with a range of audiences using contemporary tools. | CLO16 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. |
| Plo9 | Use creative, innovative, and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations. | CLO17 | Use creative, innovative, and flexible thinking to respond to new situations. |
| | | CLO18 | Acquire entrepreneurial and leadership skills to anticipate new situations. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr / Mohamed Abdelrahman** | |
| **Program coordinator** | **Dr/Hend Ali** | |

| | | |
|---|---|---|
| **Head of Department** | **Ass.Prof. Dr. Reham Othman** |  |
| **Date of Approval** | **9/2023** | |

**Course Specification**

**Course Code: PHM0201** **Course Title: Mathematics (2)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Electrical Power Engineering Depart. | | | |
| **Department offering the program** | Electrical Power Engineering Depart. | | | |
| **Department offering the course** | Engineering Mathematics and Physics department | | | |
| **Course Code** | PHM0201 | | | |
| **prerequisite** | Mathematics 1 | | | |
| **Year/level** | Prep year / (First Level) | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | 2 | 0 | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Use data analysis, objective engineering judgment, and simulation Relate derivatives and integrals (Fundamental Theorem of calculus). (AM1.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| **CLO 1** | Recognize the inverse, hyperbolic and inverse hyperbolic trigonometric functions and determine derivatives for functions. |
| **CLO 2** | Evaluate integrals, using the techniques of integration |
| **CLO 3** | Define the Matrices, Theory of Equations and infinite Series. |

## 4 Course Contents

| Topics | Week |
|---|---|
| Introduction Hyperbolic and inverse functions and their properties-Matrices and their types. | 1 |
| Derivative of hyperbolic and inverse functions-Inverse of matrix | 2 |
| Integration of hyperbolic and inverse functions | 3 |

| | |
|---|---|
| Linear systems and types of solutions. | 4 |
| Integration by the method of substitution of trigonometric-Properties of Eigenvalues and eigenvectors of matrices method of solve it. | 5 |
| Integration by the method of partial fractions.<br>Properties of Eigenvalues and eigenvectors of matrices method of solve it. | 6 |
| Properties of Eigenvalues and eigenvectors of matrices method of solve it. | 7 |
| Integration by the method of Parts- Theory of equations. | 8 |
| Integration by the method of Parts- Theory of equations. | 10 |
| Applications of the definite integral - Theory of equations. | 11 |
| Integration by reduction-infinite series | 12 |
| Integration by reduction- infinite series | 13 |
| Wails' formula- infinite series | 14 |
| Revision | 15 |

**5. Teaching and Learning methods**

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and |
| **CLO 1** | √ | - | - | √ | - | - | - | - | - | - | - | - |
| **CLO 2** | - | - | - | √ | - | - | - | - | - | - | - | - |
| **CLO 3** | √ | - | - | √ | - | - | - | - | - | - | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO1,CLO2,CLO3 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | CLO2,CLO3 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | - |

| | | |
|---|---|---|
| 8 | Reports | CLO2,CLO3 |
| 9 | Presentations | - |
| 10 | Quiz | CLO1,CLO3 |
| 11 | Skiz | - |

**6.2 Assessment Schedule**

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | Weekly |
| 9 | Presentations | - |
| 10 | Quiz | 8 |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 50% | 75 | -- | - |
| | Class works | | | - | - |
| | Projects | | | - | - |
| | Reports | | | 10% | 15 |
| | Presentations | | | - | - |
| | Quiz | | | 10% | 15 |
| | Mid-term exam | | | 30% | 45 |
| **Final Exam** | Written exam | 50% | 75 | 50% | 75 |
| **Total** | | 100% | 150 | 100% | 150 |

## 8. List of References

[1] Stewart. J, "Calculus", 6th Edition , 2008.
[2]Hamdy M. Ahmed, Mathematics (1), 2019, ISBN 978-977-469-0445
**[3]**George B. Thomas, Calculus, 3rd Edition, 2016
[4]James Stewart., Calculus, 4th Edition, 2011, ISBN007-124429-8

## 9. Facilities required for teaching and learning

Lecture/Classroom

| |
|---|
| White board |

## 10. Matrix of Course Content with CourseC LO's

| Topics | Aim | CLO's |
|---|---|---|
| Introduction Hyperbolic and inverse functions and their properties-Matrices and their types. | 1 | **Clo1, Clo2** |
| Derivative of hyperbolic and inverse functions- Inverse of matrix | 1 | **Clo1, Clo2** |
| Integration of hyperbolic and inverse functions | 1 | **Clo1, Clo2, Clo3** |
| Linear systems and types of solutions. | 1 | **Clo1, Clo2** |
| Integration by the method of substitution of trigonometric-Properties of Eigenvalues and eigenvectors of matrices method of solve it. | 1 | **Clo1, Clo2, Clo3** |
| Integration by the method of partial fractions. Properties of Eigenvalues and eigenvectors of matrices method of solve it. | 1 | **Clo1, Clo2, Clo3** |
| Properties of Eigenvalues and eigenvectors of matrices method of solve it. | 1 | **Clo1, Clo2, Clo3** |
| Integration by the method of Parts- Theory of equations. | 1 | **Clo1, Clo2** |
| Integration by the method of Parts- Theory of equations. | 1 | **Clo1, Clo2, Clo3** |
| Applications of the definite integral - Theory of equations. | 1 | **Clo2, Clo3** |
| Integration by reduction-infinite series | 1 | **Clo1, Clo2, Clo3** |
| Integration by reduction- infinite series | 1 | **Clo2, Clo3** |
| Wails' formula- infinite series | 1 | **Clo1, Clo2** |
| Revision | 1 | **Clo1, Clo2, Clo3** |

## 11. Matrix of Program PLOs with Course CLos

| Program PLOs | | Course CLOs | |
|---|---|---|---|
| Plo1 | Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics. | **CLO 1** | Recognize the inverse, hyperbolic and inverse hyperbolic trigonometric functions and determine derivatives for functions. |
| | | **CLO 2** | Evaluate integrals, using the techniques of integration |

| | | | |
|---|---|---|---|
| Plo2 | Develop and conduct appropriate experimentation and/or simulation, analyse and interpret data, assess, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions. | **CLO 3** | Define the Matrices, Theory of Equations and infinite Series. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Eman Abdelaziz** | |
| **Program coordinator** | **Dr/Hend Ali** | |
| **Head of Department** | **Ass.Prof. Dr. Reham Othman** | |
| **Date of Approval** | **9/2023** | |

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| | | |
|---|---|---|
| | **Ministry of Higher Education**<br>**Higher Institute of Engineering and Technology**<br>**Architecture Eng. Department** | |

**Course Specification**

**Course Code:** PHM 0203 **Course Title: mechanics (2)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Department. | | | |
| **Department offering the program** | Architecture Engineering Department. | | | |
| **Department offering the course** | Engineering Mathematics and Physics department | | | |
| **Course Code** | PHM 0203 | | | |
| **Year/level** | Prep year / First Level | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 2 | 0 | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Work efficiently to identify the principles of dynamics, Rectilinear and Curvilinear motion, the Linear momentum, Angular momentum of particles, and solve any problem in a simple and logical manner. (AM1-1) |

## 3. Learning Outcomes (CLOs)

| | |
|---|---|
| **Clo1** | Identify and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics |
| **Clo2** | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| Clo4 | analyze and interpret data, assess by using statistical analyses to draw conclusions. |
| **Clo5** | evaluate findings and use statistical analyses and objective engineering judgment. |
| **Clo19** | Acquire and apply new knowledge. |
| **Clo20** | lifelong and other learning strategies ,Practice self |

## 4. Course Contents

| Topics | Week |
|---|---|
| - Kinematics of particles.<br>- Rectilinear motion of particles (Position, Velocity and acceleration) - two dimension. | 1 |
| - Rectilinear motion of particles (Position, Velocity and acceleration) - three dimension. | 2 |
| - Curvilinear motion: cylindrical coordinates | 3 |
| - Curvilinear motion: normal and tangential (intrinsic) coordinates | 4 |
| - Motion of a projectile | 5 |
| - relative motion | 6 |
| - Kinetics of particles. ( Force and acceleration)<br>- Newton's Second law of motion.<br>- Equations of motion : rectangular coordinates | 7 |
| Equations of motion : normal and tangential coordinates | 8 |
| Equations of motion : cylindrical coordinates | 10 |
| - Kinetics of particles: work and energy<br>- The work of a force<br>- Principle of work and energy | 11 |
| - Power and efficiency<br>- Conservative force and potential energy | 12 |
| - Conservation of energy | 13 |
| Kinetics of particles:<br>- Principle of linear impulse and momentum<br>- Conservation of linear momentum for a system of particles | 14 |
| - Impact | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clo1 | √ | - | - | - | - | - | - | √ | √ | - | - | - |
| Clo2 | - | √ | - | | - | - | - | √ | - | | | - |
| Clo4 | √ | √ | - | - | - | - | - | | √ | | | - |
| Clo5 | | √ | - | | | | | √ | | | | |
| Clo19 | √ | - | - | | - | - | - | √ | √ | | | - |
| Clo20 | √ | - | - | | - | - | - | √ | √ | | | |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | Clos |
|---|---|---|
| 1 | Attendance | ------- |
| 2 | Written exam | Clo1, Clo2, Clo4, Clo5, Clo19 |
| 3 | Discussions | Clo1, Clo2, Clo5, Clo19, Clo20 |
| 4 | Mid Term Exam | Clo1, Clo2, Clo5 |
| 5 | Class works | Clo2, Clo4, Clo5 |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | Clo1, Clo2, Clo5 |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | Weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | Bi-weekly |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | 5 & 10 |
| 11 | Skiz | - |

| 6.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| **Teacher Opinion** | Discussions | 40 | 40 | 2 | 2 |
| | Class works | | | 8 | 8 |
| | Quiz | | | 10 | 10 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Written exam | 60 | 60 | 60 | 60 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] James, Meriam , L. G. Kraige , "Engineering Mechanics: Dynamics", (8th SI Version Edition), John Wiley & Sons, 2016, ISBN-10 : 1119044812

[2] D.S. Kumar, " Engineering Mechanics ( Statics & Dynamics)", S.K.Kataria and son, 2019, ISBN:9789350142929

[3] Ferdinand P. Beer and E. Russell Johnston, Jr., "Vector Mechanics for Engineers: Dynamics", Edition adapted by McGraw Hill, New York, 2018, ISBN 10 1259977307

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

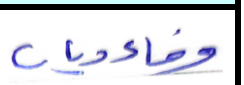
## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| - Kinematics of particles.<br>- Rectilinear motion of particles (Position, Velocity and acceleration) - two dimension. | 1 | Clo1, Clo 2, |
| - Rectilinear motion of particles (Position, Velocity and acceleration) - three dimension. | 1 | Clo1, Clo 2, |
| - Curvilinear motion: cylindrical coordinates | 1 | Clo1, Clo 2, |
| - Curvilinear motion: normal and tangential (intrinsic) coordinates | 1 | Clo1, Clo 2, |
| - Motion of a projectile | 1 | Clo1, Clo 2, Clo 4 |
| - relative motion | 1 | Clo1, Clo 2 |
| - Kinetics of particles. ( Force and acceleration)<br>- Newton's Second law of motion. | 1 | Clo 2, Clo 4, Clo5, Clo19, |

| | | |
|---|---|---|
| - Equations of motion : rectangular coordinates | | |
| Equations of motion : normal and tangential coordinates | 1 | Clo 2, Clo 4, Clo5, Clo19, Clo20 |
| Equations of motion : cylindrical coordinates | 1 | Clo 2, Clo 4, Clo5, Clo19,Clo20 |
| - Kinetics of particles: work and energy<br>- The work of a force<br>- Principle of work and energy | 1 | Clo 2, Clo 4, Clo5, Clo19,Clo20 |
| - Power and efficiency<br>- Conservative force and potential energy | 1 | Clo 4, Clo5, Clo6, |
| - Conservation of energy | 1 | Clo 4, Clo5, Clo19,Clo20 |
| Kinetics of particles:<br>- Principle of linear impulse and momentum<br>- Conservation of linear momentum for a system of particles | 1 | Clo 4, Clo5, Clo19,Clo20 |
| - Impact | 1 | Clo5, Clo19,Clo20 |

## 10. Matrix of Program LOs with Course Los

| Program LOs | | Course Los | |
|---|---|---|---|
| Plo1 | Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics. | **Clo1** | Identify and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics |
| | | **Clo2** | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| Plo2 | Develop and conduct appropriate experimentation and/or simulation, analyse and interpret data, assess, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions | Clo4 | analyze and interpret data, assess by using statistical analyses to draw conclusions. |
| | | **Clo5** | evaluate findings and use statistical analyses and objective engineering judgment. |
| Plo10 | Acquire and apply new knowledge; and practice self, lifelong and other learning strategies. | **Clo19** | Acquire and apply new knowledge. |
| | | **Clo20** | Practice self, lifelong and other learning strategies. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Wafaa Diab** |  |
| **Program coordinator** | **Dr/Hend Ali** | |
| **Head of Department** | **Assocc. Prof. Reham Othman** |  |
| **Date of Approval** | **9/2023** | |

# Course Specification

**Course Code: PHM0202 Course Title: Physics (2)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Department | | | |
| **Department offering the program** | Architecture Engineering Department | | | |
| **Department offering the course** | Engineering Mathematics and Physics department | | | |
| **Course Code** | PHM0202 | | | |
| **Year/level** | Prep year / (first level) | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | 1 | 1 | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Use data analysis, objective engineering judgment, and simulation. (AM1.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO1 | Identify and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| CLO2 | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| CLO5 | evaluate findings and use statistical analyses and objective engineering judgment. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Coulombs Law | 1 |
| Potential difference | 2 |
| Electric current | 3 |

| | |
|---|---|
| Capacitors | 4 |
| Magnetic Field | 5 |
| Inductance | 6 |
| Alternating current | 7 |
| RLc Circuit | 8 |
| Temperature measurement and Specific Heat. | 10 |
| Heat transfer and Properties of gases and Vapors | 11 |
| Thermodynamics | 12 |
| Heat Engines | 13 |
| Entropy | 14 |
| Laboratory Exam | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO1 | √ | | √ | | - | | - | √ | √ | - | - | - |
| CLO2 | √ | √ | √ | | | | | √ | | | | |
| CLO5 | √ | √ | √ | | - | | - | √ | √ | - | - | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLos |
|---|---|---|
| 1 | Attendance | ------- |
| 2 | Written exam | CLO1,CLO2,CLO5 |
| 3 | Discussions | CLO1,CLO2,CLO5 |
| 4 | Mid Term Exam | CLO1,CLO2 |
| 5 | Class works | CLO2,CLO5 |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | CLO1 |
| 11 | Laboratory | CLO1,CLO2,CLO5 |
| 12 | Laboratory Discussion | CLO1,CLO2,CLO5 |

| | | |
|---|---|---|
| 13 | Final practical exam | CLO1,CLO2,CLO5 |

**6.2 Assessment Schedule**

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | Bi weekly |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | 6, 10 |
| 11 | Laboratory Classwork | 15 |
| 12 | Laboratory Discussion | 15 |
| 13 | Final practical exam | 15 |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights |
|---|---|---|---|
| **Teacher Opinion** | Class Work | 7% | 10 |
| | Quiz | | |
| | Mid-term exam | 13% | 20 |
| **Practical / Oral** | Lab. Class Work | 20% | 30 |
| | Lab. Disscucion | | |
| | Final practical exam | | |
| **Final Exam** | Written Exam | 60% | 90 |
| **Total** | | 100% | 150 |

## 7. List of References

1-Halliday, David, Fundamentals of physics / David Halliday, Robert Resnick, Jearl Walker, 9th ed., John Wiley & Sons Inc., New York, 2011.
2- Physics for Scientists and Engineers with Modern Physics, Ninth Edition, Raymond A. Serway and John W. Jewett, Jr. USA, 2014.
3- Jim Al-Khalili, " The Physics Book: Big Ideas Simply Explained", DK Publisher, 2020, ISBN: 978-0241412725

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data Show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Coulombs Law<br>**Labs:**Introduction | 1 | CLO1 |
| Potential difference<br>**Labs:**Introduction | 1 | CLO1,CLO2. |
| Electric current<br>**Labs:** whetstone Bridge | 1 | CLO1,CLO2 |
| Capacitors<br>**Labs:** whetstone Bridge | 1 | CLO2,CLO5 |
| Magnetic Field<br>**Labs:** Ohms Law | 1 | CLO2,CLO5 |
| Inductance<br>**Labs:** Ohms Law | 1 | CLO2,CLO5 |
| Alternating current<br>**Labs:** RLC(inductor) | 1 | CLO1,CLO2, CLO5 |
| RLc Circuit<br>**Labs:** RLC(Inductor) | 1 | CLO1,CLO2, CLO5 |
| Temperature measurement and Specific Heat.<br>**Labs:** RLC(capacitor) | 1 | CLO1, CLO5 |
| Heat transfer and Properties of gases and Vapors<br>**Labs:** RLC(capacitor) | 1 | CLO2,CLO5 |
| Thermodynamics<br>**Labs:** Thermocouple | 1 | CLO2,CLO5 |
| Heat Engines<br>**Labs:** Thermocouple | 1 | CLO2,CLO5 |
| Entropy<br>**Labs:** Revision | 1 | CLO2,CLO5 |
| Laboratory Exam | 1 | CLO1,CLO2, CLO5 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | Course LOs |
|---|---|

| | | | |
|---|---|---|---|
| PLO1 | Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics. | CLO1 | Identify and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics. |
| | | CLO2 | Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics. |
| PLO2 | Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions. | CLO5 | evaluate findings and use statistical analyses and objective engineering judgment. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Ass.Prof. Dr. Rehab Ali**<br>**Dr.Eman Abdelaziz** | |
| **Program coordinator** | **Dr/Hend Ali** | |
| **Head of Department** | **Assocc. Prof. Reham Othman** | |
| **Date of Approval** | **9/2023** | |

برنامج الهندسة المعمارية
المعهد العالي للهندسة والتكنولوجيا
بالتجمع الخامس

**Course Specification**

**Course Code: MCE0202** **Course Title: Production Technology**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Depart. | | | |
| **Department offering the program** | Architecture Engineering Depart. | | | |
| **Department offering the course** | Engineering Mathematics and Physics department | | | |
| **Course Code** | MCE0202 | | | |
| **Year/level** | Prep year / (First Level) | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | 3 | 0 | 7 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with modern academic and technical skills in order to produce manufacturing processes such as manual material removal, machining, forming, welding and casting.(AM3.1) |

| 3. Course Learning Outcomes (CLOs) | |
|---|---|
| CLO6 | Apply engineering design processes to produce cost-effective solutions. |
| CLO10 | Utilize the quality guidelines, health and safety requirements |
| CLO11 | Utilize risk management principles. |
| CLO15 | Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Material properties | 1 |
| Material classification | 2 |
| Casting fundamentals | 3 |
| Fundamentals of forming processes | 4 |
| Bulk forming processes | 5 |
| Sheet metal process | 6 |
| Polymer forming processes | 7 |
| Joining processes | 8 |
| Fundamentals of Machining processes | 10 |
| Machining processses | 11 |
| Wood machining | 12 |
| History of technology | 13 |
| Fourth industrial revolutions | 14 |
| Revision | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Bi-Learn | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO6 | √ | √ | - | | | | | √ | √ | - | - | - |
| CLO10 | √ | √ | - | | | | | √ | | - | - | - |
| CLO11 | √ | | | | | | | √ | | | | |
| CLO15 | √ | √ | | | | | | | √ | | | |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | **Clo6, Clo10, Clo11, Clo15** |
| 3 | Discussions | **Clo6, Clo10, Clo11** |
| 4 | Mid Term Exam | **Clo6, Clo10, Clo11** |
| 5 | Class works | **Clo6, Clo10, Clo15** |
| 6 | Projects | - |
| 7 | Researches | |
| 8 | Reports | - |
| 9 | Presentations | |
| 10 | Quiz | **Clo6, Clo10, Clo11** |
| 11 | Skiz | - |

**6.2 Assessment Schedule**

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | weekly |
| 2 | Written exam | 16 |
| 3 | Discussions | Bi week |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | Bi week |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | 6 |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 40 | 40 | 5 | 5 |
| | Class works | | | 10 | 10 |
| | Quiz | | | 5 | 5 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Written exam | 60 | 60 | 60 | 60 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] Manufacturing, Engineering and Technology, Serope Kalpakjian, Addison-Wesley. 2013
[2] Bruce J. Black, " Workshop Processes, Practices, and Materials" Fourth Edition, Elsevir 2010.
[3]R.Singh, "Introduction to Basic Manufacturing Processes and Workshop Technology" New Age International (P) Limited Publishers, New Delhi 2006.
(4) Sreeramulu Moinikunta, "Production Technology: A Treatise Of Industrial Practices", Vol.1, Wiley Publisher, 2018, ISBN: 812657125X

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Material properties | 1 | CLO6 |
| Material classification | 1 | CLO6, CLO10 |
| Casting fundamentals | 1 | CLO6, CLO10 |
| Fundamentals of forming processes | 1 | CLO6, CLO10, CLO11 |
| Bulk forming processes | 1 | CLO10, CLO11 |
| Sheet metal process | 1 | CLO10, CLO11 |
| Polymer forming processes | 1 | CLO10, CLO11, CLO15 |
| Joining processes | 1 | CLO10, CLO11, CLO15 |
| Fundamentals of Machining processes | 1 | CLO10, CLO11, CLO15 |
| Machining processses | 1 | CLO6, CLO10, CLO11, CLO15 |
| Wood machining | 1 | CLO6, CLO10, CLO11, CLO15 |
| History of technology | 1 | CLO6, CLO10, CLO11, CLO15 |
| Fourth industrial revolutions | 1 | CLO6, CLO10, CLO11, CLO15 |
| Revision | 1 | CLO6, CLO10, CLO11, CLO15 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO3 | Apply engineering design processes to design to produce cost effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical, and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development. | CLO6 | Apply engineering design processes to produce cost-effective solutions. |
| PLO4 | Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles | CLO10 | Utilize the quality guidelines, health and safety requirements, environmental issues. |
| | | CLO11 | Utilize risk management principles. |
| PLO7 | Function efficiently as an individual and as a member of multi-disciplinary and multi - cultural teams. | CLO15 | Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Mohamed Awed** | |
| **Program coordinator** | **Dr/Hend Ali** | |
| **Head of Department** | **Ass.Prof.Dr. Reham Othman** | |
| **Date of Approval** | **9/2023** | |

برنامج الهندسة المعمارية
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بالتجمع الخامس

# Course Specification

**Course Code: ARE 1202** **Course Title: Architectural Design (1)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 1202 | | | |
| **Year/level** | First year /Second level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | - | 7 | - | 7 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Produce innovative design engineering solutions in architecture engineering design at the local level (AM1.2) |
| 2 | Train the students for innovative and creative thinking, describing and solving design problems and requirements (AM2.1) |
| 3 | Use principles that ensure meeting the needs of present and future generations in terms of social, cultural and environmental aspects (AM2.2) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO23 | Produce designs that meet the requirements of building users |
| CLO24 | Deal with the relation between people, buildings, and their surrounding environment |
| CLO25 | Produce designs with the scale of humanity and its needs |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction of the project | 1 |
| Research (Analysis of Similar projects) + Skiz for zoning | 2 |
| Layout of the project to show circulation and main elements. | 3 |
| How to deal with simple projects which has simple constrains (layout and pre- plan) | 4-5 |

| | |
|---|---|
| Emphasize design integrations with surrounding environment. (layout and pre- plan) | 6 |
| Relations between spaces in building (plans) | 7 |
| Sections and heights of building (huminites scale) | 8 |
| Skiz (Layout + Ground and first floor plan) | 9 |
| Matching of plans – form -sections | 10 |
| Elevations and respect the location style | 11 |
| Presentation principles for the project | 12 |
| Match the whole project | 13 |
| Semifinal project | 14 |
| Final project | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (LOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO23 | √ | - | - | - | √ | - | - | √ | - | - | √ | - |
| CLO24 | √ | - | - | √ | √ | √ | - | √ | - | - | - | - |
| CLO25 | √ | - | - | - | √ | - | - | √ | - | - | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| Assessment Method | LOs |
|---|---|
| Attendance | - |
| written exam | CLO23-CLO24-CLO25 |
| Discussions | CLO23-CLO24-CLO25 |
| Mid Term Exam | CLO23-CLO24-CLO25 |
| Class works | - |
| Projects | CLO23-CLO24-CLO25 |
| Researches | CLO24 |
| Reports | - |
| Presentations | CLO24 |
| Quiz | - |
| Skiz | CLO23-CLO24-CLO25 |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |

| | | |
|---|---|---|
| 2 | Written exam | 16 |
| 3 | Discussions | Weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | - |
| 6 | Projects | Weekly |
| 7 | Researches | 2 |
| 8 | Reports | - |
| 9 | Presentations | 2-14-15 |
| 10 | Quiz | - |
| 11 | Skiz | 6-11 |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | %60 | 60 | %10 | 10 |
| | Researches | | | %5 | 5 |
| | Presentation | | | %5 | 5 |
| | Project | | | %15 | 15 |
| | Skiz | | | %5 | 5 |
| | Mid-term exam | | | %20 | 20 |
| **Final Exam** | Written exam | %40 | 40 | %40 | 40 |
| **Total** | | %100 | 100 | %100 | 100 |

## 7. List of References


- Joseph De Chiara (Author, Editor), Michael J. Crosbie (Author, Editor),Time-Saver Standards for Building Types 4th Edition , ISBN: 0070163871
- Ernst Neufert (Author), Peter Neufert (Author) ,Bousmaha Baiche (Editor), Nicholas Walliman(Editor), “Neufert s Architects Data 4th Edition”, published by Wiley–Blackwell, 2012, ISBN: 9781405192538
- FRANCIS D. K. CHING, “FORM, SPACE, AND ORDER”, Fourth Edition, 2020.
- STEVEN P. JUROSZEK, “Design Drawing”, Third Edition, 2020, ISBN: 9780471752165.


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

| 9. | Matrix of Course Content with Course LO’s | |
|---|---|---|
| **Topics** | **Aim** | **LO's** |

| | | |
|---|---|---|
| Introduction of the project | 2 | CLO24 |
| Research (Analysis of Similar projects) + Skiz for zoning | 2 | CLO24 |
| Layout of the project to show circulation and main elements. | 1-2-3 | CLO24 |
| How to deal with simple projects which has simple constrains (layout and pre- plan) | 1-2-3 | CLO23- CLO25 |
| Emphasize design integrations with surrounding environment. (layout and pre-plan) | 1-2-3 | CLO22 |
| Relations between spaces in building (plans) | 1-2-3 | CLO23-CLO24-CLO25 |
| Skiz (Layout + Ground and first floor plan) | 1-2-3 | CLO23-CLO24-CLO25 |
| Sections and heights of building (huminites scale) | 1-2-3 | CLO23-CLO24-CLO25 |
| Matching of plans – form -sections | 1-2-3 | CLO23-CLO24-CLO25 |
| Elevations and respect the location style | 1-2-3 | CLO23-CLO24-CLO25 |
| Presentation principles for the project | 1-2-3 | CLO23-CLO24-CLO25 |
| Match the whole project | 1-2-3 | CLO23-CLO24-CLO25 |
| Semifinal project | 1-2-3 | CLO23-CLO24-CLO25 |
| Final project | 1-2-3 | CLO23-CLO24-CLO25 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO12 | Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs. | CLO23 | Produce designs that meet the requirements of building users |
| | | CLO24 | Deal with the relation between people, buildings, and their surrounding environment |
| | | CLO25 | Produce designs with the scale of humanity and its needs |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Assocc. Prof. Mohammed Mustafa** |  |
| **Head of Department** | **Assocc. Prof. Reham Othman** |  |

| | | |
|---|---|---|
| **Date of Approval** | **1/10/2023** | |

# Course Specification

**Course Code: CVE 1231 Course Title: Theory of structure**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Program | | | |
| **Department offering the program** | Architecture Engineering Program | | | |
| **Department offering the course** | Civil Engineering Department | | | |
| **Course Code** | CVE 1231 | | | |
| **Year/level** | First year / Second level (1st Semester) | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | 2 | - | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Train the students for solving problems of structure analysis (AM2.1). |
| 2 | Provide the students the knowledge and expertise to analysis of structure using several techniques (AM3.1). |

## 3. Learning Outcomes (CLOs)

| | |
|---|---|
| Clo1 | Identify and formulate complex engineering problems by applying engineering fundamentals. |
| Clo2 | Solve complex engineering problems by applying basic science, and mathematics. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction theory of structure, and stability equations | 1 |
| Determination of reactions for beams without intermediate hinges. | 2 |
| Determination of reactions for beams with intermediate hinges | 3 |
| Determination of internal forces for beams without intermediate hinges. | 4 |
| Determination of internal forces for beams with intermediate hinges. | 5 |

| | |
|---|---|
| Determination of reactions for Frames without inclined members. | 6 |
| Determination of reactions for Frames with inclined members. | 7 |
| Determination of internal forces for Frames without inclined members. | 8 |
| Determination of internal forces for Frames with inclined members. | 10 |
| Determination of reactions for trusses | 11 |
| Define the force for all the truss members by goint method | 12 |
| Define the force for all the truss members by section method | 13-14 |
| Revision | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (LOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO1 | √ | √ | - | √ | - | - | - | - | - | √ | - | - |
| CLO2 | √ | √ | - | - | - | - | - | - | - | √ | - | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLos |
|---|---|---|
| 1 | Attendance | ------- |
| 2 | written exam | Clo1, clo2 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | Clo1, clo2 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | Clo1, clo2 |
| 9 | Presentations | - |
| 10 | Quiz | Clo1, clo2 |
| 11 | Skiz | - |

| 6.2 Assessment Schedule | | |
|---|---|---|
| No. | **Assessment Method** | **Weeks** |
| 1 | Attendance | Weekly |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | - |
| 8 | Reports | Bi-weekly |
| 9 | Presentations | - |
| 10 | Quiz | 4 & 10 |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
|---|---|---|---|---|---|
| **Teacher Opinion** | Reports / sheets | 40% | 40 | 10% | 10 |
| | Quiz | | | 10% | 10 |
| | Mid-term exam | | | 20% | 20 |
| **Final Exam** | Written exam | 60% | 60 | 60% | 60% |
| **Total** | | 100% | 100 | %100 | 100 |

## 7. List of References

[1] Farkas, József, and Károly Jármai. Analysis and optimum design of metal structures. CRC Press, 2020.

[2] Megson, Thomas Henry Gordon. Structural and stress analysis. Butterworth-Heinemann, 2019.

[3] Kassimali, Aslam. Structural analysis. Cengage Learning, 2023.

[5] Ramamrutham, Hand Book of Civil Engineering, 2022.

[6] West, Fundamentals of Structural Analsis,2021

## 8. Facilities required for teaching and learning

Lecture/LMS

| |
|---|
| White board |
| Data show |

## 9.Matrix of Course Content with Course LO's

| Topics | Aim | Los |
|---|---|---|
| Introduction theory of structure, and stability equations | 1 | Clo1, clo2 |
| Determination of reactions for beams without intermediate hinges. | 1-2 | Clo1, clo2 |
| Determination of reactions for beams with intermediate hinges | 1-2 | Clo1, clo2 |
| Determination of internal forces for beams without intermediate hinges. | 1-2 | Clo1, clo2 |
| Determination of internal forces for beams with intermediate hinges. | 2 | Clo1, clo2 |
| Determination of reactions for Frames without inclined members. | 2 | Clo1, clo2 |
| Determination of reactions for Frames with inclined members. | 2 | Clo1, clo2 |
| Determination of internal forces for Frames without inclined members. | 2 | Clo1, clo2 |
| Determination of internal forces for Frames with inclined members. | 2 | Clo1, clo2 |
| Determination of reactions for trusses | 2 | Clo1, clo2 |
| Define the force for all the truss members by goint method | 2 | Clo1, clo2 |
| Define the force for all the truss members by section method | 2 | Clo1, clo2 |
| Revision | 1-2 | Clo1, clo2 |

## 9. Matrix of Program LOs with Course Los

| Program Los | | Course Los | |
|---|---|---|---|
| Plo1 | Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics. | Clo1 | Identify and formulate complex engineering problems by applying engineering fundamentals. |
| | | Clo2 | Solve complex engineering problems by applying basic science, and mathematics. |

| Title | Name | Signature |
|---|---|---|
| **Course Coordinator** | **DR. Nesrin Ali.** | Dr\ Nesrin Ali |
| **Head of Department** | Assoc. Prof Reham Othman | Dr.Reham |
| **Date of Approval** | **7-10-2023** | |

برنامج الهندسة المعمارية
المعهد العالي للهندسة والتكنولوجيا
بالتجمع الخامس

# Course Specification

**Course Code: CVE 1232** **Course Title: Foundations & Testing of Materials**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Civil Engineering | | | |
| **Course Code** | CVE 1232 | | | |
| **Year/level** | First year / Second Level | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | 2 | 0 | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 2 | Able to plan supervise and follow up the implementation of engineering projects(AM1.3) |
| 1 | Teach the students to practice the methodology in creative thinking, describing, solving soil problems and using suitable material in their architecture purposes (AM2.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO 3 | Develop appropriate experimentation and/or simulation to draw conclusions. |
| CLO 4 | Analyze data, assess by using statistical analyses to draw conclusions. |
| CLO5 | Evaluate findings by using statistical analyses and objective engineering judgment. |
| CLO12 | Practice research techniques and methods of investigation as an inherent part of learning. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Soil formation: soil origin and formation, basic definitions. | 1 |
| Physical properties of soil: definitions, basic relationships, laboratory tests, water content, specific gravity, unit weight, relative density. | 2 |
| Physical properties of soil: sieves and hydrometer analysis, Atterberg limits, Soil classification. | 3 |

| | |
|---|---|
| Physical properties of soil: Relative density, measure density in field. | 4 |
| Foundation: Types of foundation, Design criteria, Suitability of foundation type to soil and loads. | 5 |
| Foundation: Design of shallow and deep foundation | 6 |
| Properties and testing of stone, specific gravity, unit weight, natural and total absorption, permeability, soundness, crushing, compressive strength. | 7 |
| Properties and testing of bricks, Types of bricks, dimensions of bricks, specific gravity, unit weight, absorption, compressive strength. | 8 |
| Properties and testing of Timber**,** using of timber in architecture purposes**.** | 10 |
| Properties and testing of cement, Types of cement, specific gravity, volumetric weight, fineness, setting time, soundness, compression, absorption, compressive strength. | 11 |
| Properties and testing of aggregates (sand, gravel), specific gravity, unit weight, grain size distribution**,** content of fine particles. | 12 |
| Concrete: Types of Concrete, components of concrete. Tests on fresh concrete and hardened concrete. | 13 |
| Concrete manufacturing: storage, mixing, transportation, pouring, compacting, curing. | 14 |
| Revision | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (LOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO 3 | √ | | - | | | | - | | - | - | | |
| CLO 4 | √ | √ | - | √ | | | - | √ | - | - | | |
| CLO5 | √ | √ | - | √ | | | - | √ | - | - | | |
| CLO12 | √ | | - | √ | | | - | √ | - | - | | |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | LOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO3,CLO4, CLO5 |
| 3 | Discussions | CLO4, CLO5,CLO12 |
| 4 | Mid Term Exam | CLO3,CLO4, CLO5 |
| 5 | classwork | CLO3,CLO4, CLO5 |
| 6 | Projects | - |
| 7 | Researches | CLO4, CLO5,CLO12 |

| | | |
|---|---|---|
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

**6.2 Assessment Schedule**

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | classwork | weekly |
| 6 | Projects | - |
| 7 | Researches | 3 |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | classwork | 40% | 40 | 10% | 10 |
| | Researches | | | 10% | 10 |
| | Mid-term exam | | | 20% | 20 |
| **Final Exam** | Written exam | 60% | 60 | 60% | 60 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] Das B.M, "Advanced Soil Mechanics", Fifth Edition, ISBN: 0367730103, (2020).
[2] Egyptian Code of Practice for Soil Mechanics and Design and Construction of foundations, parts 5,10, Housing and Building Research Center, Cairo,2020.
[3] Liu C and Evett J.B, "Soils and Foundations" 7th Edition, Prentice Hall, ISBN: 0132221381 (2007).
[4] Barry, "Statics & Strength of Materials for Architecture & Building Construction" 4th Edition, Pearson, ISBN: 978-0135079256, (2011).

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |
| Laboratory Usage |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | LO's |
|---|---|---|
| Soil formation: soil origin and formation, basic definitions. | 1 | CLO4, CLO5 |
| Physical properties of soil: definitions, basic relationships, laboratory tests, water content, specific gravity, unit weight, relative density. | 1 | CLO3,CLO4, CLO5 |
| Physical properties of soil: sieves and hydrometer analysis, Atterberg limits, Soil classification | 1 | CLO3,CLO4, CLO5,CLO12 |
| Physical properties of soil: Relative density, measure density in field. | 1 | CLO3,CLO4, CLO5,CLO12 |
| Foundation: Types of foundation, Design criteria, Suitability of foundation type to soil and loads. | 1 | CLO5,CLO12 |
| Foundation: Design of shallow and deep foundation | 1 | CLO5,CLO12 |
| Properties and testing of stone, specific gravity, unit weight, natural and total absorption, permeability, soundness, crushing, compressive strength. | 1 | CLO3,CLO4, CLO5,CLO12 |
| Properties and testing of bricks, Types of bricks, dimensions of bricks, specific gravity, unit weight, absorption, compressive strength. | 1 | CLO3,CLO4, CLO5 |
| Properties and testing of Timber**,** using of timber in architecture purposes**.** | 1 | CLO3,CLO4, CLO5 |
| Properties and testing of cement, Types of cement, specific gravity, volumetric weight, fineness, setting time, soundness, compression, absorption, compressive strength. | 1 | CLO3,CLO4, CLO5 |
| Properties and testing of aggregates (sand, gravel), specific gravity, unit weight, grain size distribution**,** content of fine particles. | 1 | CLO3,CLO4, CLO5 |
| Concrete: Types of Concrete, components of concrete. Tests on fresh concrete and hardened concrete. | 1 | CLO3,CLO4, CLO, CLO12 |
| Concrete manufacturing: storage, mixing, transportation, pouring, compacting, curing. | 1 | CLO5 |
| Revision | 1 | CLO3,CLO4, CLO5, CLO12 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO2 | Develop and conduct appropriate experimentation and/or simulation, analyses and interpret data, assess, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions. | CLO 3 | Develop appropriate experimentation and/or simulation to draw conclusions. |
| | | CLO 4 | Analyze data, assess by using statistical analyses to draw conclusions. |
| | | CLO5 | Evaluate findings by using statistical analyses and objective engineering judgment. |
| PLO5 | Practice research techniques and methods of investigation as an inherent part of learning. | CLO12 | Practice research techniques and methods of investigation as an inherent part of learning. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Mounir Kamel** |  |
| **Head of Department** | **Assocc. Prof. Reham Othman** |  |
| **Date of Approval** | **1/10/2023** |   |

Ministry of Higher Education
Higher Institute of Engineering and Technology
Architecture Eng. department

**Course Specification**

**Course Code: Are 1204 Course Title: Environmental Design & Control**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 1204 | | | |
| **Year/level** | first year /Second Level | | | |
| **Specialization** | Major | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 1 | 2 | 0 | 3 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with the capacity to prepare flexible and ecologically responsible designs by enabling them to conceive the basic concepts of sustainable architecture (AM5.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO9 | Utilize contemporary technologies, codes of practice and standards. |
| CLO10 | Utilize the quality guidelines, health and safety requirements, environmental issues. |
| CLO26 | Prepare environmentally responsible designs to preserve and rehabilitate the environment |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction to Bio climatic architecture | 1 |
| classification of climatic zones | 2 |
| human thermal comfort | 3 |
| Environmental factors effecting architecture design: Sun : | 4 |
| Solar path, Sun Angles, Solar Azimuth | 5 |
| Environmental factors effecting architecture design: Sun : | 6 |
| Environmental factors effecting architecture design: wind | 7 |

| | |
|---|---|
| Environmental factors effecting architecture design: humidity | 8 |
| Environmental Challenges & Sustainable Solutions | 10 |
| Fundamental science and engineering principles of various green technologies employed for water, waste and energy sectors | 11 |
| Best practices in buildings regarding environmental design | 12 |
| Energy and Environmental Design rating systems LEED ,BAREAM | 13 |
| Energy and Environmental Design rating systems : ,WELL & GREEN STAR Green Pyramid, QSAS, PRS & ARZ | 14 |
| Energy and Environmental Design rating systems : QSAS, PRS & ARZ | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (LOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research | Projects | Presentation | Site Visits | Discussion | Brain storm | E-Learning | Self-learning | Modeling and simulation |
| CLO9 | √ | | - | √ | - | | - | √ | √ | √ | √ | |
| CLO10 | √ | | - | | - | √ | - | | √ | | | |
| CLO26 | √ | √ | - | √ | - | √ | - | | | | | |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | LOs |
|---|---|---|
| 1 | Attendance | ---------- |
| 2 | Mid Term Exam | CLO9-CLO10-CLO26 |
| 3 | Researches | CLO9-CLO10 |
| 4 | Presentations | CLO26 |
| 5 | Written Exam | CLO9-CLO10-CLO26 |

### 6.2 Assessment Schedule

| Assessment Method | Weeks |
|---|---|
| Attendance | weekly |
| Mid Term Exam | 9 |
| Researches | 8,14 |
| Presentations | 15 |
| Written Exam | 16 |

### 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Mid Term Exam | 50 | 50 | 20 | 20 |
| | Researches | | | 20 | 20 |
| | Presentations | | | 10 | 10 |
| **Final Exam** | Written exam | 50 | 50 | 50 | 50 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] Tracy B., Vicky L. (2016). Design for Sustainability: A Practical Approach, Taylor & Francis Press, ISBN: 0-080-43004

[2] Catalina S., John L. (2017). Smart Energy Control Systems for Sustainable Buildings Guide to Green Building Rating Systems , Springer International Publishing

[3] Blokdyk G. (2021). Control Environment A Complete Guide. 5STARCooks ,1st edition, ISBN-10 : 0655948600

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture hall |
| White board |
| Data show |

## 9.Matrix of Course Content with Course LO's

| Topics | Aim | LO's |
|---|---|---|
| Introduction to Bio climatic architecture | 1 | CLO9-CLO10-CLO26 |
| classification of climatic zones | 1 | CLO10-CLO26 |
| human thermal comfort | 1 | CLO9-CLO10 |
| Environmental factors effecting architecture design | 1 | CLO9-CLO10-CLO26 |
| Solar path, Sun Angles, Solar Azimuth | 1 | CLO9-CLO10-CLO26 |
| Environmental factors effecting architecture design: Sun : | 1 | CLO9-CLO10-CLO26 |
| Environmental factors effecting architecture design: wind | 1 | CLO9-CLO10-CLO26 |
| Environmental factors effecting architecture design: humidity | 1 | CLO9-CLO10-CLO26 |
| Environmental Challenges & Sustainable Solutions | 1 | CLO10-CLO26 |
| Fundamental science and engineering principles of various green technologies employed for water, waste and energy sectors | 1 | CLO9-CLO10-CLO26 |

| | | |
|---|---|---|
| Best practices in buildings regarding environmental design | 1 | CLO9-CLO10 |
| Energy and Environmental Design rating systems LEED, BAREAM | 1 | CLO9-CLO10-CLO26 |
| Energy and Environmental Design rating systems: WELL & GREEN STAR Green Pyramid, QSAS, PRS & ARZ | 1 | CLO9-CLO10-CLO26 |

## 9. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO4 | Utilize contemporary technologies, and environmental issues | CLO9 | Utilize contemporary technologies, codes of practice and standards. |
| | | CLO10 | Utilize the quality guidelines, health and safety requirements, environmental issues. |
| PLO13 | Preparing environmentally responsible designs to preserve and rehabilitate the environment through an understanding of the environmental design | CLO26 | Prepare environmentally responsible designs to preserve and rehabilitate the environment |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Yasmin Talaat Ismail** | |
| **Head of Department** | **Assoc Prof. Dr. Reham Othman** | |
| **Date of Approval** | **710/2023** | |

برنامج الهندسة المعمارية
المعهد العالي للهندسة والتكنولوجيا
بالتجمع الخامس

# Course Specification

**Course Code: ARE 1203** **Course Title: History of Architecture 1**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 1203 | | | |
| **Year/level** | first year / Second Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | - | - | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with cultural knowledge of history, fine arts, and local and international heritage, to design and implement more inclusive architectural and urban projects. (AM3.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO21 | Analyse the history of architecture that meet aesthetic and technical elements of Architecture |
| CLO22 | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction to the history of architecture through the ages | 1 |
| Architectural thought and design philosophy throughout the ages | 2 |
| Identity of different peoples + handing over models of pre-civilization buildings | 3 |
| Research and discussion about ancient civilizations | 4 |

| | |
|---|---|
| Ancient Civilizations and its architectural thoughts | 5 |
| The ancient Egyptian civilization and the factors affecting it | 6 |
| Ancient Egyptian Civilization (Funeral Buildings) | 7 |
| Research for ancient Egyptian Civilization and its buildings | 8 |
| Ancient Egyptian Civilization principles | 10 |
| Ancient Egyptian Civilization (Religious Buildings) | 11 |
| Classical Civilizations (Greek - Roman) and its thoughts | 12 |
| Architecture in the era of the dawn of Christianity its architecture thoughts | 13 |
| Research and discussion about Byzantine | 14 |
| Byzantine architecture and its architecture thoughts | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (LOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO21 | √ | √ | - | √ | - | √ | - | √ | √ | - | - | - |
| CLO22 | √ | √ | - | √ | - | √ | - | √ | √ | - | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | Los |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO21-CLO22 |
| 3 | Discussions | CLO21-CLO22 |
| 4 | Mid Term Exam | CLO21-CLO22 |
| 5 | Class works | CLO21-CLO22 |
| 6 | Projects | - |
| 7 | Researches | CLO21-CLO22 |
| 8 | Reports | - |
| 9 | Presentations | CLO21-CLO22 |
| 10 | Quiz | - |
| 11 | Skiz | - |

| 6.2 Assessment Schedule | | |
|---|---|---|
| No. | **Assessment Method** | **Weeks** |
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | Weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | twice |
| 6 | Projects | - |
| 7 | Researches | 3Times |
| 8 | Reports | - |
| 9 | Presentations | 3Times |
| 10 | Quiz | - |
| 11 | Skiz | - |

| 6.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| **Teacher Opinion** | Discussions | %50 | 50 | %5 | 5 |
| | Class works | | | %5 | 5 |
| | Researches | | | %10 | 10 |
| | Presentations | | | %10 | 10 |
| | Mid-term exam | | | %20 | 20 |
| **Final Exam** | Written exam | %50 | 50 | %50 | 50 |
| **Total** | | %100 | 100 | %100 | 100 |

## 7. List of References


- رنا اسماعيل اليسير,(2019),تاريخ العمارة بين القديم والحديث,دار اثراء للنشر والتوزيع, العدد الرابع ISBN 9957780128.
- قبيلة المالكى, (2016) تاريخ العمارة عبر العصور, دار المنهج للنشر والتوزيع,عمان,العدد السابع عشر.
- توفيق عبدالجواد,(2008), تاريخ العمارة والفنون فى العصور الاولى, متبة الانجلو المصرية.
- توفيق عبدالجواد, (1984), العمارة وحضارة مصر الفرعونية,مكتبةالانجلو المصرية.


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | LO's |
|---|---|---|
| Introduction to the history of architecture through the ages | 1 | CLO21-CLO22 |
| Architectural thought and design philosophy throughout the ages | 1 | CLO21-CLO22 |
| Identity of different peoples + handing over models of pre-civilization buildings | 1 | CLO21-CLO22 |
| Research and discussion about ancient civilizations | 1 | CLO21-CLO22 |
| Ancient Civilizations and its architectural thoughts | 1 | CLO21 |
| The ancient Egyptian civilization and the factors affecting it | 1 | CLO21 |
| Ancient Egyptian Civilization (Funeral Buildings) | 1 | CLO21-CLO22 |
| research for ancient Egyptian Civilization and its buildings | 1 | CLO21-CLO22 |
| Ancient Egyptian Civilization principles | 1 | CLO21-CLO22 |
| Ancient Egyptian Civilization (Religious Buildings) | 1 | CLO21-CLO22 |
| Classical Civilizations (Greek - Roman) and its thoughts | 1 | CLO21-CLO22 |
| Architecture in the era of the dawn of Christianity its architecture thoughts | 1 | CLO22 |
| Research and discussion about Byzantine | 1 | CLO21-CLO22 |
| Byzantine architecture and its architecture thoughts | 1 | CLO21-CLO22 |

## 10. Matrix of Program LOs with Course Los

| Program LOs | | Course Los | |
|---|---|---|---|
| PLO11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences. | CLO21 | Analyse the history of architecture that meet aesthetic and technical elements of Architecture |
| | | CLO22 | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Hend Ali** | |

| | | |
|---|---|---|
| **Head of Department** | **Assocc. Prof. Reham Othman** |  |
| **Date of Approval** | **07/10/2023** | |

# Course Specification

**Course Code: ARE 1201** **Course Title: Building construction 2**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 1201 | | | |
| **Year/level** | first year / Second Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 3 | - | 5 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with the capacity to know types of building finishing and their ability to choose the suitable to building (AM5.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO26 | Categories the types of finishing in building |
| CLO27 | Choose the suitable finishing in building. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction about stairs and its types | 1 |
| Illustrated stairs in Building and its structural systems | 2 |
| Illustrated how to draw plans of stairs in Building and its structural systems | 3 |
| Illustrated how to draw sectional of stairs in Building and its structural systems | 4 |
| Explain special modeling of stairs | 5 |
| Illustrated Damp proofing, Heat and sound insulation, | 6 |
| Illustrated how to draw Expansion and settlement joints | 7 |
| Illustrated Carpentry work in the building (doors-windows) details . | 8 |

| | |
|---|---|
| How to draw Carpentry work in the building (doors-windows) details . | 10 |
| Discussion about finishing details | 11 |
| Wooden floor details and construction | 12 |
| Illustrated architectural sanitary drawings | 13 |
| Illustrated principles of architectural drawings | 14 |
| follow up project presentation | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO26 | √ | √ | - | √ | - | √ | - | √ | √ | - | √ | - |
| CLO27 | √ | √ | - | √ | - | - | - | - | √ | - | - | - |

## 6. Students' Assessment

| 6.1 Students' Assessment Method | |
|---|---|
| **Assessment Method** | **Los** |
| Attendance | - |
| Written exam | CLO26 -CLO27 |
| Discussions | CLO26-CLO27 |
| Mid Term Exam | CLO26 |
| Class works | CLO26 -CLO27 |
| Projects | - |
| Researches | CLO26 -CLO27 |
| Reports | - |
| Presentations | CLO26 -CLO27 |
| Laboratory | - |
| Quiz/Skiz | - |

**6.2 Assessment Schedule**

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | Weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | - |

| | | |
|---|---|---|
| 7 | Researches | 6-12 |
| 8 | Reports | - |
| 9 | Presentations | 6-12 |
| 10 | Quiz | - |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | %60 | 60 | %3 | 3 |
| | Class works | | | %12 | 12 |
| | Researches | | | %3 | 3 |
| | Presentations | | | %2 | 2 |
| | Mid-term exam | | | %20 | 20 |
| **Final Exam** | Written exam | %40 | 40 | %40 | 40 |
| **Total** | | %100 | 100 | %100 | 100 |

## 7. List of References


- DAVID CHAPELL & ANDREW WILLS,(2019),” The Architect in Practice ”RIBA, New york, Wiley-Blackwell ,11TH Edition ISBN 13 978-1118907733
- Guedi Capeluto, Carlos Ernesto Ochoa,(2017), Intelligent Envelopes for High-Performance Buildings, Design and Strategy ,Springer Cham,1st Edition, ISBN13 978-3319392547.
- Wilhelm, N.E. (2014). Building Construction. In: Selin, H. (eds) Encyclopaedia of the History of Science, Technology, and Medicine in Non-Western Cultures. Springer,6TH ed, Jones & Bartlett Learning,ISBN13 978-1284177312.
- Edward Allen , Joseph Iano(2019); Fundamentals of Building Construction: Materials and Methods, Wiley, 7th Ed, ISBN13978-1119446194.
- Dennis J. Hall, Nina M. Giglio;(2016), Architectural Graphic Standards, Mitchell, American Institute of ArchitectS, McGraw Hill ,12th Ed, ISBN13 978-0071772938.
- محمود احمد على,(2021) , سلسلة دليلك فى عالم التنفيذ الجزء الاول والثانىو دار الكتب العلمية للنشر والتوزيع, القاهرة.


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | LO's |
|---|---|---|
| Introduction about stairs and its types | 1 | CLO26 |
| Illustrated stairs in Building and its structural systems | 1 | CLO26 |
| Illustrated how to draw plans of stairs in Building and its structural systems | 1 | CLO26-CLO27 |
| Illustrated how to draw sectional of stairs in Building and its structural systems | 1 | CLO26-CLO27 |
| Explain special modeling of stairs | 1 | CLO27 |
| Illustrated Damp proofing, Heat and sound insulation, | 1 | CLO26-CLO27 |
| Illustrated how to draw Expansion and settlement joints | 1 | CLO26-CLO27 |
| Illustrated Carpentry work in the building (doors-windows) details . | 1 | CLO26 |
| How to draw Carpentry work in the building (doors-windows) details. | 1 | CLO26-CLO27 |
| Discussion about finishing details | 1 | CLO26-CLO27 |
| Wooden floor details and construction | 1 | CLO26-CLO27 |
| Illustrated architectural sanitary drawings | 1 | CLO26-CLO27 |
| Illustrated principles of architectural drawings | 1 | CLO26-CLO27 |
| follow up project presentation | | CLO26-CLO27 |

## 10. Matrix of Program PLOs with Course CLos

| Program PLOs | | Course LOs | |
|---|---|---|---|
| PLO13 | Preparing environmentally responsible designs to preserve and rehabilitate the environment through an understanding of the structural design, construction, technology used and associated engineering problems Building designs. | CLO26 | Categories the types of finishing in building |
| | | CLO27 | Choose the suitable finishing in building. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Hend Ali** |  |

| | | |
|---|---|---|
| **Head of Department** | **Assocc. Prof. Reham Othman** |  |
| **Date of Approval** | **07/10/2023** | |

# Course Specification

**Course Code: ARE 2105** **Course Title: Urban Landscaping**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 2105 | | | |
| **Year/level** | Second year /Third level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | - | 2 | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Use scientific methods that ensure meeting the needs of present and future generations in terms of social, cultural, environmental, and economic aspects (AM2.2) |
| 2 | Apply sustainable development to design planning projects. (AM2.3) |
| 3 | Provide the students with modern academic and technical skills, cultural knowledge of history, fine arts, and local and international heritage (AM3.1) |

AM4. Strengthens the links

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| **CLO8** | Achieve the principles of design within the principles and contexts of sustainable design and development. |
| **CLO21** | Create architectural, urban and planning designs that meet aesthetic and technical requirements |
| **CLO22** | Use adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

## 4. Course Contents

| Topics | Week |
|---|---|
| Urban Open Spaces concept, definitions, components. | 1 |
| Types of Urban Open Spaces and its characteristics. | 2 |
| Relation between buildings and open spaces, organization and geometry of space | 3 |
| Surveying the built environment on the scale of the street (Research) | 4 |
| Softscape Elements: Topography | 5 |
| Softscape Elements: Plants | 6 |
| Softscape Elements: Water Features | 7 |

| | |
|---|---|
| Classifications of Hardscape Elements | 8 |
| Landscape different styles | 9 |
| Steps of landscape design (alternatives) | 10 |
| Introduction to landscape project (BUBBLE DIAGRAM) Part 1 | 11 |
| Introduction to landscape project (BUBBLE DIAGRAM) Part 2 | 12 |
| Lay out of the project (zoning) | 13 |
| Distribute landscape elements and describe the element function. | 14 |
| Presentation of the landscape project and elements classifications- shapes- types- maintenance -color- function. | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO8 | √ | √ | - | √ | √ | - | - | - | - | √ | √ | - |
| CLO21 | √ | √ | - | - | √ | √ | - | - | - | √ | √ | - |
| CLO22 | √ | √ | - | √ | √ | √ | √ | - | - | √ | - | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | LOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Final exam | CLO8, CLO21, CLO22 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | CLO21, CLO22 |
| 5 | Class works | CLO8, CLO21, CLO22 |
| 6 | Projects | CLO8, CLO21, CLO22 |
| 7 | Researches | CLO8, CLO22 |
| 8 | Reports | - |
| 9 | Presentations | CLO21, CLO22 |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|

| | | |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | 3-4-10 |
| 6 | Projects | 10-15 |
| 7 | Researches | 4-7 |
| 8 | Reports | - |
| 9 | Presentations | 4-7 |
| 10 | Quiz | - |
| 11 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Class works | %40 | 40 | %5 | 5 |
| | Researches | | | %5 | 5 |
| | Presentation | | | %5 | 5 |
| | Project | | | %5 | 5 |
| | Mid-term exam | | | %20 | 20 |
| **Final Exam** | Written exam | %60 | 60 | %60 | 60 |
| **Total** | | %100 | 100 | %100 | 100 |

## 7. List of References


- Charles Harris & Nicholas Dines, "Time-Saver Standards for Landscape Architecture", 2nd edition (November 22, 1997), IBSN: 0070170274
- Norman K. Booth," Foundations of Landscape Architecture", by John Wiley & Sons, Inc, 2012, IBSN: 10. 0470635053.
- The Art of Service - Competitive Landscape Publishing (Author)," Competitive Landscape A Complete Guide" - 2021 Edition, IBSN: 1867439166


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Lecture room equipped with e-learning tools (computer, internet, mike, etc.) |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | LO's |
|---|---|---|

| | | |
|---|---|---|
| Urban Open Spaces concept, definitions, components. | 1-3 | CLO8 |
| Types of Urban Open Spaces and its characteristics. | 1-3 | CLO8 |
| Relation between buildings and open spaces, organization and geometry of space<br>Surveying the built environment on the scale of the street (Research) | 1-3 | CLO8-CLO22 |
| Softscape Elements: Topography | 1-3 | CLO8-CLO21 |
| Softscape Elements: Plants | 1-3 | CLO8-CLO22 |
| Softscape Elements: Water Features | 1-3 | CLO8-CLO22 |
| Classifications of Hardscape Elements | 1-3 | CLO8-CLO22 |
| Landscape different styles | 1-3 | CLO8-CLO22 |
| Steps of landscape design (alternatives) | 1-2 | CLO21-CLO22 |
| Introduction to landscape project (BUBBLE DIAGRAM) | 1-2 | CLO8-CLO21-CLO22 |
| Lay out of the project (zoning) | 1-2 | CLO8-CLO21-CLO22 |
| Distribute landscape elements and describe the element function. | 2-3 | CLO8-CLO21-CLO22 |
| Presentation of the landscape project and elements classifications- shapes- types-maintenance -color-function. | 2-3 | CLO8-CLO21-CLO22 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO3 | Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical, and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development. | **CLO8** | Achieve the principles of design within the principles and contexts of sustainable design and development. |
| PLO11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences. | **CLO21** | Create architectural, urban and planning designs that meet aesthetic and technical requirements |
| | | **CLO22** | Use adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Assoc. Prof. Reham Othman** | |
| **Head of Department** | **Assoc. Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

برنامج الهندسة المعمارية
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بالتجمع الخامس

**Course Specification**

**Course Code: ARE 2203 Course Title: Building Construction & Principles of Working Drawings (2)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 2203 | | | |
| **Year/level** | Second year / Third Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 4 | 0 | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with the capacity to prepare flexible and ecologically responsible designs by understanding modern structural and technological designs. (AM5.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO13 | Plan engineering projects |
| CLO14 | Supervise and monitor implementation of engineering projects, |
| CLO30 | Prepare design project briefs and documents |
| CLO31 | Manage the architect's context in the construction industry including his role in the bidding and procurement of architectural services |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction and overview | 1 |
| Celling Finishes: Ceiling finishes Suspended & False Ceiling | 2 |
| Floor Finishes: Raised floor | 3 |
| Wall Finishes: Curtain walls | 4 |
| Wall Finishes: Partitions | 5 |
| Introduction to Preparation of working drawings for projects | 6 |
| Preliminary stage: Plans | 7 |
| Preliminary stage: Plans | 8 |
| Preliminary stage: Sections | 10 |
| Preliminary stage: Sections | 11 |
| Preliminary stage: Elevations | 12 |
| Preliminary stage: Elevations | 13 |
| Preliminary stage: Details | 14 |
| Final project (Full drawings of preliminary stage) | 15 |

| 5. | Teaching and Learning methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO13 | √ | √ | - | | √ | √ | - | √ | - | - | √ | - |
| CLO14 | √ | √ | - | √ | √ | √ | - | √ | - | - | | - |
| CLO30 | √ | √ | - | √ | √ | √ | - | √ | - | - | √ | - |
| CLO31 | √ | √ | - | | √ | √ | - | √ | - | - | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO13,CLO14,CLO30,CLO31 |
| 3 | Discussions | CLO13,CLO14,CLO30,CLO31 |
| 4 | Mid Term Exam | CLO14,CLO30 |
| 5 | Class works | CLO13,CLO14,CLO30,CLO31 |
| 6 | Projects | CLO13,CLO14,CLO30,CLO31 |
| 7 | Researches | CLO14,CLO30 |
| 8 | Reports | CLO14,CLO30 |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | From week 6 To 15 |
| 7 | Researches | weekly |
| 8 | Reports | - |
| 9 | Presentations | weekly |
| 10 | Quiz | - |
| 11 | Skiz | - |

| 6.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| | Class works | 60 | 60 | 20 | 20 |
| | Projects | | | 15 | 15 |
| | Researches | | | 5 | 5 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Written exam | 40 | 40 | 40 | 40 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References


- Edward Allen (2019), Joseph Iano; Fundamentals of Building Construction: Materials and Methods 7th Edition. ISBN-13: 978-1119446194.
- Edward Allen & Patrick Rand (2016); Architectural Detailing - 3rd Edition by Edward Allen & Patrick Rand (Paperback), UPC: 9781118881996.
- Chudley, Roy & Greeno, Roger (2014), Building Construction Handbook, 10th Ed, Routledge, NY. ISBN13: 978-0-415-83638-8.
- Ching, Francis D. K(2012); Building Construction Illustration, Wiley , 4th Ed , ISBN-13 : 978-8126535637.
- Elena M. S. Garrison (Editor)(2003); The Graphic Standards Guide to Architectural Finishes: Using MASTERSPEC to Evaluate, Select, and Specify Materials, The American Institute of Architects, ISBN: 978-0-471-44952-2.
- Dennis J. Hall, Nina M. Giglio(2016) ; Architectural Graphic Standards, 12th Edition Mitchell, American Institute of Architects, ISBN: 978-1-118-90950-8.


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Lecture room |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | LO's |
|---|---|---|
| Introduction and overview | 1 | CLO13 |
| Celling Finishes: Ceiling finishes Suspended & False Ceiling | 1 | CLO14 |
| Floor Finishes: Raised floor | 1 | CLO30 |
| Wall Finishes: Curtain walls | 1 | CLO30 |
| Wall Finishes: Partitions | 1 | CLO30 |
| Introduction to Preparation of working drawings for projects | 1 | CLO14,CLO30,CLO31 |
| Preliminary stage: Plans | 1 | CLO13,CLO14,CLO30,CLO31 |
| Preliminary stage: Plans | 1 | CLO13,CLO14,CLO30,CLO31 |
| Preliminary stage: Sections | 1 | CLO13,CLO14,CLO30,CLO31 |

| | | |
|---|---|---|
| Preliminary stage: Sections | 1 | CLO13,CLO14,CLO30,CLO31 |
| Preliminary stage: Elevations | 1 | CLO13,CLO14,CLO30,CLO31 |
| Preliminary stage: Elevations | 1 | CLO13,CLO14,CLO30,CLO31 |
| Preliminary stage: Details | 1 | CLO13,CLO14,CLO30,CLO31 |
| Final project (Full drawings of preliminary stage) | 1 | CLO13,CLO14,CLO30,CLO31 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO6 | Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements. | CLO13 | Plan engineering projects |
| | | CLO14 | Supervise and monitor implementation of engineering projects, |
| PLO15 | Prepare design project briefs and documents and understand the architect's context in the construction industry including, This includes his role in the bidding and procurement of architectural services and the production of buildings | CLO30 | Prepare design project briefs and documents |
| | | CLO31 | Manage the architect's context in the construction industry including his role in the bidding and procurement of architectural services |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Marwa Emad** | |
| **Head of Department** | **Assoc. Prof. Reham Othman** | |
| **Date of Approval** | **07/10/2023** | |

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# Course Specification

**Course Code: ARE 2203** **Course Title: Computer Applications in Architecture (1)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 2203 | | | |
| **Year/level** | Second year / Third Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 2 | 0 | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with AutoCAD software knowledge that enables them to well present their design and execution projects (AM1-1). |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO16 | Communicate effectively – graphically, verbally and understanding computer techniques of design in two dimensions. |
| CLO21 | Create architectural designs that meet aesthetic and technical requirements. |
| CLO22 | Use Adequate knowledge of technologies and think of design forms in two dimensions. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction to CAD and overview :<br>The AutoCAD window, screen menus, command line status bar, toolbars and data input devices. | 1 |
| Working with AutoCAD :<br>Commands: UNITS, COORDINATES,OPEN, NEW, SAVE, SAVE AS, OSNAP, ZOOM and PAN | 2 |
| Working with AutoCAD:<br>Commands: LINE, RECTANGLE | 3 |
| Working with AutoCAD: Commands: QUIT, ERASE, OOPS, UNDO, REDO, SNAP. GRID, and ORTHO.<br>Basic drawing tools: Commands: ARC, CIRCLE, ELLIPSE | 4 |
| Basic drawing tools:<br>Commands: Multiline, XLINE, PLINE and POINT. | 5 |
| Modifying Drawings 2: Advanced editing operations<br>Commands: ARRAY, MIRROR, STRETCH, SCALE, ALIGN, ROTATE, and PEDIT. | 6 |

| | |
|---|---|
| Drawings management 1:<br>Commands: Line Width, LINETYPES, PURGE, Layer Properties and Layer Tool | 7 |
| Drawings management 2:<br>Commands: LIST, AREA, MEASURE, DIVIDE, TEXT STYLE and PTYPE | 8 |
| Developing the drawing 1:<br>Commands: HATCH, Boundary and DIMENSIONS. | 10 |
| Developing the drawing 2:<br>Commands: BLOCK, INSERT, WBLOCK and EXPLODE | 11 |
| Data Output/Input:<br>Commands: PLOT, PAPER SPACE, MODEL SPACE, IMPORTING and EXPORTING | 12 |
| Data Output/Input:<br>Commands: PLOT Layout | 13 |
| Starting final project using AutoCAD skills | 14 |
| Final project evaluation for all required drawings. | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO16 | √ | √ | √ | - | | - | - | - | - | √ | | - |
| CLO21 | √ | √ | √ | - | √ | - | - | - | - | √ | √ | - |
| CLO22 | √ | √ | √ | - | √ | - | - | - | - | √ | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | LOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO21,CLO22 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | CLO21,CLO22 |
| 5 | Class works | CLO16 ,CLO21,CLO22 |
| 6 | Projects | CLO21,CLO22 |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

| 7.2 Assessment Schedule | | |
|---|---|---|
| No. | **Assessment Method** | **Weeks** |
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | Week 15 |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

| 7.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| | Class works | | | 20 | 20 |
| | Projects | | | 10 | 10 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Written exam | 50 | 50 | 50 | 50 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References


- Richard, Paul, Kenneth(2013). Introduction to AutoCAD. Prentice Hall, Publisher Peachpit Press . ISBN-13: 978-0132954754.
- Dennis J.Hall and Charles Rick Green.(2006) – The Architect's Guide to the U.S National CAD Standard –publisher John Wiley& sons. ASIN : B00I2TN5SU.
- Autodesk AutoCAD website / AutoCAD 2020


## .Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Lecture room equipped with e-learning tools (computer, mike, etc.) |
| Data show |

## 9. Matrix of Course Content with Course LO's

| No. | Topics | Aim | LO's |
|---|---|---|---|
| 1 | Introduction to CAD and overview : The AutoCAD window, screen menus, command line status bar, toolbars and data input devices. | 1 | - |
| 2 | Working with AutoCAD : Commands: UNITS, COORDINATES,OPEN, NEW, SAVE, SAVE AS, OSNAP, ZOOM and PAN | 1 | CLO16 ,CLO21,CLO22 |

| | | | |
|---|---|---|---|
| 3 | Working with AutoCAD:<br>Commands: LINE, RECTANGLE | 1 | CLO16 ,CLO21,CLO22 |
| 4 | Working with AutoCAD: Commands: QUIT, ERASE, OOPS, UNDO, REDO, SNAP. GRID, and ORTHO.<br>Basic drawing tools: Commands: ARC, CIRCLE, ELLIPSE | 1 | CLO16 , CLO21,CLO22 |
| 5 | Basic drawing tools:<br>Commands: Multiline, XLINE, PLINE and POINT. | 1 | CLO16 , CLO21,CLO22 |
| 6 | Modifying Drawings 2: Advanced editing operations<br>Commands: ARRAY, MIRROR, STRETCH, SCALE, ALIGN, ROTATE, and PEDIT. | 1 | CLO16 , CLO21,CLO22 |
| 7 | Drawings management 1:<br>Commands: Line Width, LINETYPES, PURGE, Layer Properties and Layer Tool | 1 | CLO16 , CLO21,CLO22 |
| 8 | Drawings management 2:<br>Commands: LIST, AREA, MEASURE, DIVIDE, TEXT STYLE and PTYPE | 1 | CLO16 , CLO21,CLO22 |
| 10 | Developing the drawing 1:<br>Commands: HATCH, Boundary and DIMENSIONS. | 1 | CLO16 , CLO21,CLO22 |
| 11 | Developing the drawing 2:<br>Commands: BLOCK, INSERT, WBLOCK and EXPLODE | 1 | CLO16 , CLO21,CLO22 |
| 12 | Data Output/Input:<br>Commands: PLOT, PAPER SPACE, MODEL SPACE, IMPORTING and EXPORTING | 1 | CLO21,CLO22 |
| 13 | Data Output/Input:<br>Commands: PLOT Layout | 1 | CLO21,CLO22 |
| 14 | Starting final project using AutoCAD skills | 1 | CLO21,CLO22 |
| 15 | Final project evaluation for all required drawings. | 1 | CLO16 , CLO21,CLO22 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO8 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. | CLO16 | Communicate effectively – graphically, verbally and understanding computer techniques of design in two dimensions. |
| PLO11 | Prepare design project briefs and documents and understand the architect's | CLO21 | Create architectural designs that meet aesthetic and technical requirements. |

| | | | |
|---|---|---|---|
| | context in the construction industry including, This includes his role in the bidding and procurement of architectural services and the production of buildings | CLO22 | Use Adequate knowledge of technologies and think of design forms in two dimensions. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Marwa Emad** |  |
| **Head of Department** | **Assoc. Prof. Reham Othman** |  |
| **Date of Approval** | **07/10/2023** | |

# Course Specification

**Course Code: ARE** 2202 **Course Title:** History of Architecture (2)

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 2202 | | | |
| **Year/level** | Second Year (3st Level) | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | 0 | 0 | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with modern academic and technical skills, cultural knowledge of history, Features of Historic Architecture in every Era in Ancient Christian and Islamic Periods, and local and international heritage whether through direct education or e-learning, to design and implement more inclusive architectural projects. (AM3.1) |

## 3. COURS Learning Outcomes (LOs)

| | |
|---|---|
| **CLO15** | Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams. |
| **CLO19** | Acquire and apply new knowledge. |
| **CLO22** | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

## 4. Course Contents

| Topics | Week |
|---|---|
| The historic series of architecture | 1 |
| Romanesque architecture | 2 |
| Gothic architecture | 3 |
| Renaissance architecture+ + Research 1 (Comparison of Rom., Gothic and Reainss. Architecture Features) | 4 |
| Islamic, Ayyubid architecture | 5 |
| Architecture of Abbasid periods | 6 |
| Architecture of the Tollund. | 7 |
| Architecture of the Fatimid | 8 |
| Architecture of Mamluk+ Research 2 (Comparison of Islamic Arch.) | 10 |
| Architecture of Ottoman period | 11 |

| | |
|---|---|
| Architecture of Modern period + Research 3(Comparison of Ottoman and Modern period ) | 12 |
| Presentation of the Field Visit of Churches and cathedrals and Mosques in Cairo | 13 |
| Presentation of Comparisons between Islamic architecture in all periods. | 14 |
| Final Research +final Project | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and | Projects | Presentation | Site Visits | Discussion and | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| **CLO15** | - | - | - | √ | - | √ | √ | √ | - | - | √ | - |
| **CLO19** | √ | | | √ | | √ | √ | | | | | |
| **CLO22** | √ | - | - | √ | - | √ | | √ | - | √ | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | LOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO19,CLO22 |
| 3 | Discussions | ClO15, CLO19,CLO22 |
| 4 | Mid Term Exam | CLO19,CLO22 |
| 5 | Class works | ClO15, CLO91,CLO22 |
| 6 | Projects | - |
| 7 | Researches | ClO15, CLO19,CLO22 |
| 8 | Reports | - |
| 9 | Presentations | ClO15, CLO19,CLO22 |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | - |

| | | |
|---|---|---|
| 7 | Researches | 4, 9,12 |
| 8 | Reports | - |
| 9 | Presentations | 14,15 |
| 10 | Project | 12,14 |
| 11 | Maket | 5,11 |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 50 | 50 | 5 | 5 |
| | Class works | | | 5 | 5 |
| | Researches | | | 10 | 10 |
| | Presentations | | | 10 | 10 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Written exam | 50 | 50 | 50 | 50 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] Hanno-Walter Kruft, A history of architectural theory : from Vitruvius to the present., Princeton Architectural Press ,1994, ISBN: 9781568980102, 1568980108.

[2] توفيق عبد الجواد, " تاريخ العمارة والفنون الإسلامية"، مكتبة الأنجلو المصرية،٢٠١٠.

[3] John Hansbridge ," Graphic History of Architecture ", Viking Press , 1967, ISBN: 9780940512153, 0940512157.

[4]عبد الله عطية عبد الحافظ،" العمارة الإسلامية "، مكتبة افاق، ٢٠١٨.

[5] نعمت اسماعيل علام ، "فنون الشرق الاوسط والعالم القديم"، دار المعارف، الطبعة الثالثة،٢٠٠٩.

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| LMS |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | LO's |
|---|---|---|
| The historic series of architecture | 1 | CLO15 |
| Romanesque architecture | 1 | CLO15 |
| Gothic architecture | 1 | CLO15 |

| | | |
|---|---|---|
| Renaissance architecture+ + Research 1 (Comparison of Rom. ,Gothic and Reainss. Architecture Features) | 1 | ClO15, CLO19,CLO22 |
| Islamic, Ayyubid architecture | 1 | CLO19 |
| Architecture of Abbasid periods | 1 | CLO19 |
| Architecture of the Tollund. | 1 | CLO19 |
| Architecture of the Fatimid | 1 | CLO19 |
| Architecture of Mamluk+ Research 2 (Comparison of Islamic Arch.) | 1 | ClO15, CLO19,CLO22 |
| Architecture of Ottoman period | 1 | CLO22 |
| Architecture of Modern period + Research 3(Comparison of Ottoman and Modern period ) | 1 | ClO15, CLO19,CLO22 |
| Presentation of the Field Visit of Churches and cathedrals and Mosques in Cairo | 1 | ClO15, CLO19,CLO22 |
| Presentation of Comparisons between Islamic architecture in all periods. | 1 | ClO15, CLO19,CLO22 |
| Final presentations of the Research. | | ClO15, CLO19,CLO22 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO7 | Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams. | **CLO15** | Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams. |
| PLO10 | Acquire and apply new knowledge; and practice self, lifelong and other learning strategies. | **CLO19** | Acquire and apply new knowledge. |
| PLO11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences. | **CLO22** | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **DR. Nesma Helmy** |  |
| **Head of Department** | **Associa. Prof. Reham Othman** |  |

| | | |
|---|---|---|
| **Date of Approval** | **01/10/2023** |  |

# Course Specification

**Course Code: MCE2231** **Course Title: Technical insulation**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | MCE2231 | | | |
| **Year/level** | second year / Third Level | | | |
| **Specialization** | **Minor** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 3 | 1 | - | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Select efficiently the Technical insulation in numerous professions of the Application of Thermodynamics, Thermal insulation, Plumbing systems, Electromechanical Principles to generate suitable buildings (AM3.2) |

## 3. Course Outcomes (CLOs)

| | |
|---|---|
| CLO26 | Prepare Projects that can serve Human comfort and health requirements. |
| CLO27 | Choose the Application of Thermodynamics, Thermal insulation, Plumbing systems, Electromechanical Principles. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Human comfort and health requirements. | 1 |
| Plumbing systems. | 2 |
| Plumbing systems contained | 3 |
| Supplying building with water | 4 |
| Fire protection systems | 5 |
| Thermodynamics Principles. | 6 |
| Application of Thermodynamics Principles. | 7 |
| HVAC systems and applications | 8 |
| Active HVAC systems | 10 |
| Thermal insulation in buildings | 11 |
| Thermal insulation in buildings contained | 12 |
| Electromechanical Systems in building | 13 |
| The project discussion | 14 |
| Revision about all course content | 15 |

| 5. | Teaching and Learning methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO26 | √ | √ | - | √ | √ | √ | √ | √ | √ | - | - | - |
| CLO27 | √ | - | - | √ | √ | √ | √ | √ | √ | - | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO26-CLO27 |
| 3 | Discussions | CLO27 |
| 4 | Mid Term Exam | CLO26-CLO27 |
| 5 | Class works | CLO26-CLO27 |
| 6 | Projects | CLO26-CLO27 |
| 7 | Researches | CLO26 |
| 8 | Reports | - |
| 9 | Presentations | CLO27 |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | 3 times |
| 6 | Projects | 6-14 |
| 7 | Researches | 4-10 |
| 8 | Reports | - |
| 9 | Presentations | 4-6-10-14 |
| 10 | Quiz | - |
| 11 | Skiz | - |

## 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | %40 | 40 | %2.5 | 2.5 |
| | Class works | | | %2.5 | 2.5 |
| | Projects | | | %10 | 10 |
| | Researches | | | %2.5 | 2.5 |
| | Presentations | | | %2.5 | 2.5 |
| | Mid-term exam | | | %20 | 20 |
| **Final Exam** | Written exam | %60 | 60 | %60 | 60 |
| **Total** | | %100 | 100 | %100 | 100 |

## 7. List of References


- Vaughn Bradshaw ,(2019),"The Building Environment: Active and Passive Control Systems", Wiley & Sons,5TH Ed,ISBN13 978-0471689652.
- MERRITT F. S., RICKETTS J.T., McGraw Hill ,(2018),"Design and Construction" Hand Book, , New York,3rd Ed,ISBN13 979-8352035498 .
- American Society of Heating, Refrigerating & Air-Conditioning Engineers,(2016), "Principles of Heating, Ventilating and Air-ConditioningHandbook. Fundamentals: SI ed. Amer Society of Heating, Atlanta, GA 6th Ed, ISBN13 978-1933742694.
- ايمان عبدالهادى, 2022, "انظمة التدفئه والتهوية وتكييف الهواء, ورقة بحثية,المجلة العربية للبحث العلمى,العدد الثانى.


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Human comfort and health requirements. | 1 | CLO26, CLO27 |
| Plumbing systems. | 1 | CLO26, CLO27 |
| Plumbing systems contained | 1 | CLO26, CLO27 |
| Supplying building with water | 1 | CLO26, CLO27 |
| Fire protection systems | 1 | CLO27 |
| Thermodynamics Principles. | 1 | CLO27 |
| Application of Thermodynamics Principles. | 1 | CLO27 |
| HVAC systems and applications | 1 | CLO27 |
| Active HVAC systems | 1 | CLO27 |
| Thermal insulation in buildings | 1 | CLO27 |
| Thermal insulation in buildings contained | 1 | CLO26, CLO27 |
| Electromechanical Systems in building | 1 | CLO26, CLO27 |
| The project discussion | 1 | CLO26, CLO27 |
| Revision about all course content | 1 | CLO26, CLO27 |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| PLO13 | Preparing environmentally responsible designs to preserve and rehabilitate the environment through an understanding of the structural design, construction, technology used and associated engineering problems Building designs. | CLO26 | Prepare Projects that can serve Human comfort and health requirements. |
| | | CLO27 | Choose the Application of Thermodynamics, Thermal insulation, Plumbing systems, Electromechanical Principles. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Hend Ali** |  |
| **Head of Department** | **Associa. Prof. Reham Othman** |  |
| **Date of Approval** | **07/10/2023** | |

# Course Specification

**Course Code: ARE 2201** **Course Title: Architectural Design (3)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 2201 | | | |
| **Year/level** | Second year / Third Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 0 | 8 | 0 | 8 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Train the students for innovative and creative thinking, describing and solving design problems and requirements. (AM.2.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| **CLO12** | Practice research techniques and methods of investigation as an inherent part of learning. |
| **CLO23** | Produce designs that meet the requirements of building users |
| **CLO24** | Deal with the relation between people, buildings, and their surrounding environment |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introducion of the project | 1 |
| Research for the project + Presentation | 2 |
| Layout 1/500 | 3 |
| Layout 1/500 + Ground floor plan 1/400 | 4 |
| Layout 1/500 + Ground floor plan 1/400 | 5 |
| Skiz1 (Layout 1/500 + Ground floor plan 1/200 + sections 1/200) | 6 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200 | 7 |
| sections 1/200 + Elevations 1/200 | 8 |
| sections 1/200 + Elevations 1/200 | 10 |
| Skiz 2(Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective ) | 11 |
| All Project observation | 12 |
| All Project observation | 13 |
| Semifinal project | 14 |
| Final project | 15 |

| 5. | Teaching and Learning methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO12 | √ | - | - | √ | - | √ | - | √ | - | - | √ | - |
| CLO23 | - | √ | - | - | √ | - | - | √ | - | - | - | - |
| CLO24 | - | √ | - | - | √ | - | - | √ | - | - | - | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLos |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO23,CLO24 |
| 3 | Discussions | CLO12, CLO23, CLO24 |
| 4 | Mid Term Exam | CLO23,CLO24 |
| 5 | Class works | CLO23, CLO24 |
| 6 | Projects | CLO23, CLO24 |
| 7 | Researches | CLO12 |
| 8 | Reports | - |
| 9 | Presentations | CLO12 |
| 10 | Quiz | - |
| 11 | Skiz | CLO23,CLO24 |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | 14,15 |
| 7 | Researches | 2 |
| 8 | Reports | - |
| 9 | Presentations | 2 |
| 10 | Quiz | - |
| 11 | Skiz | 6,11 |

## 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| Teacher Opinion | Discussions | 60 | 60 | 5 | 5 |
| | Class works | | | 10 | 10 |
| | Projects | | | 10 | 10 |
| | Researches | | | 3 | 3 |
| | Presentations | | | 2 | 2 |
| | Skiz | | | 10 | 10 |
| | Mid-term exam | | | 20 | 20 |
| Final Exam | Written exam | 40 | 40 | 40 | 40 |
| Total | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] Jihad Awad, (2020), "Top International Architects - DESIGN CONCEPTS IN ARCHITECTURE (4 volumes)", Universal Publisher & Distributor Est., Abu Dhabi - U.A.E., ISBN · 978-9953-591-04-9.

[2] Joseph De Chiara (Author, Editor), Michael J. Crosbie (Author, Editor), (2015), "Time-Saver Standards for Building Types, 4th Edition", published by McGraw-Hill, United States of America, 2015, ISBN-13 : 978-9339217778.

[3] Ernst Neufert (Author), Peter Neufert (Author) ,Bousmaha Baiche (Editor), Nicholas Walliman(Editor), (2012), "Neufert s Architects Data 4th Edition", published by Wiley–Blackwell, ISBN-13. 978-1405192538.

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Introduction of the project | 1 | CLO12 |
| Research for the project + presentation | 1 | CLO12,CLO23 |
| Layout 1/500 | 1 | CLO23,CLO24 |
| Layout 1/500 + Ground floor plan 1/400 | 1 | CLO23,CLO24 |
| Layout 1/500 + Ground floor plan 1/400 | 1 | CLO23,CLO24 |
| Skiz1 (Layout 1/500 + Ground floor plan 1/200 + sections 1/200) | 1 | CLO23,CLO24 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200 | 1 | CLO23,CLO24 |
| sections 1/200 + Elevations 1/200 | 1 | CLO23,CLO24 |
| sections 1/200 + Elevations 1/200 | 1 | CLO23,CLO24 |
| Skiz 2(Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective ) | 1 | CLO23,CLO24 |
| All Project observation | 1 | CLO12,CLO23,CLO24 |

| | | |
|---|---|---|
| All Project observation | 1 | CLO23,CLO24 |
| Semifinal project | 1 | CLO23,CLO24 |
| Final project | 1 | CLO23,CLO24 |

## 10. Matrix of Program LOs with Course Los

| Program LOs | | Course Los | |
|---|---|---|---|
| PLO5 | Practice research techniques and methods of investigation as an inherent part of learning. | **CLO12** | Practice research techniques and methods of investigation as an inherent part of learning. |
| PLO12 | Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs | **CLO23** | Produce designs that meet the requirements of building users |
| | | **CLO24** | Deal with the relation between people, buildings, and their surrounding environment |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Assoc. Prof. Reham Othman** | |
| | **Dr. Hadeel Mahmoud** | |
| **Head of Department** | **Assoc. Prof. Reham Othman** | |
| **Date of Approval** | **07/10/2023** | |

برنامج الهندسة المعمارية
المعهد العالي للهندسة والتكنولوجيا
بالتجمع الخامس

Ministry of Higher Education
Higher Institute of Engineering and Technology
Architecture Eng. department

**Course Specification**

**Course Code: Are 3205 Course Title: Working Drawings (2)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 3205 | | | |
| **Year/level** | Third year /Forth Level | | | |
| **Specialization** | Major | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | ---- | 6 | 0 | 6 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | ,whether through Provide the students with modern academic and technical skills direct education or e-learning, to implement more inclusive architectural projects by design working drawings while exploiting modern technologies through proper planning and participatory work. (AM3.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO27 | choose the structural design, construction, technology used |
| CLO31 | Manage the architect's context in the construction industry including his role in the bidding and procurement of architectural services |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction to working drawings | 1 |
| Building structure systems for short spans | 2 |
| Application of techniques used in preparation of working drawings sheets | 3 |
| Release of the project | 4 |
| Plans drawings: Basement floor plan +Ground floor plan +First floor plan | 5 |
| Section drawings | 6 |
| Wall Section drawings | 7 |
| Elevation drawings | 8 |

| | |
|---|---|
| Layout: Soft Scape | 10 |
| Layout: Hard scape | 11 |
| Details of certain and specific points of the project 1 | 12 |
| Details of certain and specific points of the project 2 | 13 |
| Semi Final project Submission | 14 |
| Final project Submission | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research | Projects | Presentation | Site Visits | Discussion | Brain storm | E-Learning | Self-learning | Modeling and simulation |
| CLO27 | √ | - | - | | √ | - | - | - | - | - | √ | - |
| CLO31 | √ | - | - | - | √ | - | - | - | - | √ | - | - |

## 6.Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO.27, CLO.31 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | CLO.27, CLO.31 |
| 5 | Class works | - |
| 6 | Projects | CLO.27 |
| 7 | Researches | -- |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | - |

| | | |
|---|---|---|
| 6 | Projects | 14 |
| 7 | Researches | 8-13 |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

## 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Attendance | 60 | 60 | -- | -- |
| | Mid Term Exam | | | 20 | 20 |
| | Researches | | | 10 | 10 |
| | Project | | | 30 | 30 |
| **Final Exam** | Written exam | 40 | 40 | 60 | 60 |
| **Total** | | 100 | 100 | 100 | 100 |

## 6. List of References

[1] Bert B. ,Basics (2018).Basics fundamentals of presentation- Detail Drawing. Germany: Walter de Gruyter GmbH

[2] Chee Seong C., Varenyam A. (2021). Building Materials for Sustainable and Ecological Environment . ISBN : 9789811617065, 9811617066

[3] Singh G. (2019). Building Construction and Materials. Amit Publisher and Distributors ISBN:9788189401214

## 7. Facilities required for teaching and learning

| |
|---|
| Lecture hall |
| White board |
| Data show |

## 8. Matrix of Course Content with Course CLO's

| No. | Topics | Aim | CLO's |
|---|---|---|---|
| 1 | Introduction to working drawings | 1 | CLO.27, CLO.31 |
| 2 | Building structure systems for short spans | 1 | CLO.27, CLO.31 |
| 3 | Application of techniques used in preparation of working drawings sheets | 1 | CLO.27 |
| 4 | Release of the project | 1 | CLO.27, CLO.31 |

| | | | |
|---|---|---|---|
| 5 | Plans drawings: Basement floor plan +Ground floor plan +First floor plan | 1 | CLO.31 |
| 6 | Section drawings | 1 | CLO.31 |
| 7 | Wall Section drawings | 1 | CLO.31 |
| 8 | Elevation drawings | 1 | CLO.31 |
| 9 | Layout: Soft Scape | 1 | CLO.27 |
| 10 | Layout: Hard scape | 1 | CLO.27 |
| 11 | Details of certain and specific points of the project 1 | 1 | CLO.27, CLO.31 |
| 12 | Details of certain and specific points of the project 2 | 1 | CLO.27, CLO.31 |
| 13 | Semi Final project Submission | 1 | CLO.27, CLO.31 |
| 14 | Final project Submission | 1 | CLO.27, CLO.31 |

## 9. Matrix of Program PLOs with Course CLos

| Program PLOs | | Course CLos | |
|---|---|---|---|
| PLO13 | Preparing environmentally responsible designs to preserve and rehabilitate the environment through an understanding of the structural design, construction, technology used and associated engineering problems Building designs | CLO26 | Prepare environmentally responsible designs to preserve and rehabilitate the environment |
| | | CLO27 | choose the structural design, construction, technology used |
| PLO15 | Prepare design project briefs and documents and understand the architect's context in the construction industry including, this includes his role in the bidding and procurement of architectural services and the production of buildings | CLO30 | Prepare design project briefs and documents |
| | | CLO31 | Manage the architect's context in the construction industry including his role in the bidding and procurement of architectural services |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Yasmin Talaat Ismail** | |
| **Head of Department** | **Assoc Prof. Dr. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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# Course Specification

**Course Code: ARE 3204** **Course Title: Urban planning**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture department | | | |
| **Department offering the program** | Architecture department | | | |
| **Department offering the course** | Architecture department | | | |
| **Course Code** | ARE 3204 | | | |
| **Year/Level** | third year / Forth Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 1 | 4 | - | 5 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Work efficiently by using data analysis, survey, and simulation to produce innovative urban planning solutions in slims and at the local, regional, and international levels and able to plan, supervise and follow up the implementation of urban projects. (AM1.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO15 | Work efficiently in a multidisciplinary and cultural team. |
| CLO21 | Search efficiently using Advanced search methods and survey. |
| CLO22 | Studying Planning levels and stages process and how to applicate it. |

## 4. Course Contents

| Topics | Week |
|---|---|
| A general introduction to Urban Planning and the definition. | 1 |
| The difference between rural and urban, types of planning | 2 |
| Planning levels and stages of the planning process+ Research about field study | 3 |
| The planning unit of the city, the survey form, the base map | 4 |
| Functional structure of the city and locations and classification of cities | 5 |
| The master plan (concept, objectives, characteristics) | 6 |
| Hierarchy of residential cells and roads | 7 |
| Urban Lift Analysis (Determinants - Problems - Possibilities) | 8 |
| Preparation of the general plan (stages of analysis) | 10 |
| Preparation of the general plan (stages of preparation of alternatives) | 11 |
| Planning rates for services | 12 |
| Sustainable urban planning | 13 |
| Submission of semifinal project | 14 |
| Submission of final project | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research | Projects | Presentation | Site Visits | Discussion | Brain storm | E-Learning | Self-learning | Modeling and simulation |
| CLO15 | | - | - | √ | √ | - | - | - | √ | - | √ | - |
| CLO21 | √ | √ | - | | √ | - | - | √ | - | √ | √ | - |
| CLO22 | √ | √ | - | √ | √ | - | - | √ | - | √ | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | ------- |
| 2 | Written exam | **CLO.21, CLO.22** |
| 3 | Discussions | **CLO.15** |
| 4 | Mid Term Exam | **CLO.21, CLO.22** |
| 5 | Class works | **CLO.21, CLO.22** |
| 6 | Projects | **CLO.15, CLO.21, CLO.22** |
| 7 | Researches | **CLO.15, CLO.22** |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | 14,15 |
| 7 | Researches | 3 |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 50% | 50 | 5% | 5 |
| | Class works | | | 10% | 10 |
| | Projects | | | 10% | 10 |
| | Researches | | | 5% | 5 |
| | Mid-term exam | | | 20% | 20 |
| **Final Exam** | Written exam | 50% | 50 | 50% | 50 |
| **Total** | | 100% | 100 | 100% | 100 |

## 7. List of References


- Robert A. Beauregard," Advanced Introduction to Planning Theory", Edward Elgar Publishing, 2023, ISBN:9781788978903, 1788978900.
- Donald L. Elliott, “A Better Way to Zone: Ten Principles to Create More Livable Cities”, Island Press ,2022, ISBN:9781597261814, 1597261815.
- Gauzin-Muller, D., Sustainable Architecture and Urbanism: Concepts, Technologies,2020, Princeton Architectural Press, ISBN:9783764366599, 3764366591.
- Carmona, M., Heath, T., Oc, T. and Tiesdell, S.,”Public Places Urban Spaces.”, Published by Taylor & Francis,2022, ISBN:9781136020490, 1136020497.


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture |
| Whiteboard |
| LMS |
| Data show |

## 9. Matrix of Course Content with Course CLOs

| Topics | Aim | cLO's |
|---|---|---|
| A general introduction to Urban Planning and the definition. | 1 | **CLO.22** |
| The difference between rural and urban, types of planning | 1 | **CLO.22** |
| Planning levels and stages of the planning process+ Research about field study | 1 | **CLO.15, CLO.21, CLO.22** |
| The planning unit of the city, the survey form, the base map | 1 | **CLO.15, CLO.21** |
| Functional structure of the city and locations and classification of cities | 1 | **CLO.22** |
| The master plan (concept, objectives, characteristics) | 1 | **CLO.22** |
| Hierarchy of residential cells and roads | 1 | **CLO.22** |
| Urban Lift Analysis (Determinants - Problems - Possibilities) | 1 | **CLO.3, CLO.5** |
| Preparation of the general plan (stages of analysis) | 1 | **CLO.3, CLO.5** |

| | | |
|---|---|---|
| Preparation of the general plan (stages of preparation of alternatives) | 1 | **CLO.15, CLO.21** |
| Planning rates for services | 1 | **CLO.15, CLO.21** |
| Sustainable urban planning | 1 | **CLO.22** |
| Submission of semifinal project | 1 | **CLO.15, CLO.21, CLO.22** |
| Submission of final project | 1 | **CLO.15, CLO.21, CLO.22** |

## 10. Matrix of Program PLOs with Course CLOs

| **Program PLOs** | | **Course CLOs** | |
|---|---|---|---|
| PLO7 | Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams. | CLO15 | Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams. |
| PLO11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences. | CLO21 | Create architectural, urban and planning designs that meet aesthetic and technical requirements |
| | | CLO22 | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

| **Title** | **Name** | **Signature** |
|---|---|---|
| **Course coordinator** | **Assoc Prof. Rania Badawy** | |
| **Head of Department** | **Assoc Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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| | | |
|---|---|---|
| | Ministry of Higher Education<br>Higher Institute of Engineering and Technology<br>**Architecture department** | |

**Course Specification**

**Course Code: ARE 3203** **Course Title: Theories of Architecture (4)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture department | | | |
| **Department offering the program** | Architecture department | | | |
| **qualify** | Architecture department | | | |
| **Course Code** | ARE 3203 | | | |
| **Year/Level** | third year / fourth level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 4 | - | - | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with modern academic and technical skills, cultural knowledge of history, fine arts, and local and international heritage. students will learn about the motives for the emergence of modern architecture, the stages of its development, the architects, the schools of thought, and its global and local crises (AM3.1.) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| **CLO12** | Practice research techniques and methods of investigation as an inherent part of learning. |
| **CLO21** | Create architectural, urban, and planning designs that meet aesthetic and technical requirements of postmodern architecture |
| **CLO22** | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and Architectural trends and theories that developed over the twentieth century |

## 4. Course Contents

| Topics | Week |
|---|---|
| Motives for the emergence and stages of development of modern architecture, Architects, schools of thought, and the causes of the crisis | 1 |
| New developments and impetus for the emergence of advanced modernity architecture - and its crisis | 2 |
| The birth of modernist architecture/the crisis of modernist architecture-/trends emerging from the problems of modernist architecture | 3 |
| Critics' classifications of contemporary architecture | 4 |
| The theoretical basis for historical evidence of contemporary architecture. | 5 |
| Reasons for the Emergence of postmodern architecture | 6 |
| Directions for responding to technical progress and addressing environmental | 7 |
| Historical guide to contemporary architecture at egypt. | 8 |
| Pioneering Architects in Egypt (Hassan Fathy) | 10 |
| Pioneering Architects in Egypt (Tawfiq Abdel) | 11 |
| Pioneering Architects in Egypt (Abdel-Baqi Ibrahim) | 12 |
| The most important Egyptian architectural works and their analysis | 13 |
| Urban spaces in the local heritage architecture | 14 |
| Revision | 15 |

| 5 | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO12 | √ | - | - | √ | - | √ | - | √ | - | √ | √ | - |
| CLO21 | √ | - | - | √ | - | √ | √ | √ | - | √ | √ | - |
| CLO22 | √ | - | - | √ | - | - | √ | - | - | - | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLos |
|---|---|---|
| 1 | Attendance | --- |
| 2 | Written exam | CLO12, CLO21, CLO22 |
| 3 | Discussions | CLO12, CLO22 |
| 4 | Mid Term Exam | CLO21 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | CLO12, CLO21, CLO22 |
| 8 | Reports | - |
| 9 | Presentations | CLO12 |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | - |
| 6 | Projects | - |
| 7 | Researches | 5 – 12 |
| 8 | Reports | - |
| 9 | Presentations | 5 -8-12 |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| Teacher Opinion | Discussions | 50% | 50 | 5% | 5 |
| | Researches | | | 15% | 15 |
| | Presentations | | | 10% | 10 |
| | Mid-term exam | | | 20% | 20 |
| Final Exam | Written exam | 50% | 50 | 50% | 50 |
| Total | | 100% | 100 | 100% | 100 |

## 7. List of References


- The Story of Post-Modernism (2023): Five Decades of the Ironic, Iconic and Critical in Architecture 1st Edition by Charles Jencks ISBN-13978-0470688953Publisher Wiley
- Architecture from Functional to deconstructive ISBN 9789770528464-2021 publisher Anglo-Egyptian Library Muhammad Tawfiq Abdel Gawad
- Salah Zaitoon: The Architecture of the Twentieth Century. 4th Edition. ISBN-13: 978-1118745083.
- Architecture for the Poor: An Experiment in Rural Egypt (Phoenix Books) by Hassan Fathy (2020): ISBN-13 978-0226239163Publisher University of Chicago Press
- The Laguage of Postmodern Architecture Paperback –2020 by Charles Jencks six edition


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture |
| White board |
| LMS |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Motives for the emergence and stages of development of modern architecture, Architects, schools of thought, and the causes of the crisis | 1 | CLO21 |
| New developments and impetus for the emergence of advanced modernity architecture - and its crisis | 1 | CLO21 |
| The birth of modernist architecture/the crisis of modernist architecture-/trends emerging from the problems of modernist architecture | 1 | CLO21, CLO22 |
| Critics' classifications of contemporary architecture | 1 | CLO21, CLO22 |
| The theoretical basis for historical evidence of contemporary architecture. | 1 | CLO21, CLO22 |
| Reasons for the Emergence of postmodern architecture | 1 | CLO21, CLO22 |
| Directions for responding to technical progress and addressing environmental | 1 | CLO12, CLO21, CLO22 |
| Historical guide to contemporary architecture at egypt. | 1 | CLO12, CLO21, CLO22 |
| Pioneering Architects in Egypt (Hassan Fathy) | 1 | CLO21, CLO22 |
| Pioneering Architects in Egypt (Tawfiq Abdel) | 1 | CLO21, CLO22 |
| Pioneering Architects in Egypt (Abdel-Baqi Ibrahim) | 1 | CLO21, CLO22 |
| The most important Egyptian architectural works and their analysis | 1 | CLO21, CLO22 |
| Urban spaces in the local heritage architecture | 1 | CLO21, CLO22 |
| Revision | 1 | CLO21, CLO22 |

## 10. Matrix of Program LOs with Course Los

| Program Los | | Course Los | |
|---|---|---|---|
| PLO5 | Exercise and application of scientific research techniques and methods as an integral part of learning. | **CLO12** | Practice research techniques and methods of investigation as an inherent part of learning. |
| PLO11 | Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences. | **CLO21** | Create architectural, urban and planning designs that meet aesthetic and technical requirements |
| | | **CLO22** | use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Assoc Prof. Rania Badawy** | rania 23/12/4 |
| **Head of Department** | **Assoc Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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# Course Specification

**Course Code: Are 3263** **Course Title: Specialized Elective Course (2) Urban Design**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 3263 | | | |
| **Year/level** | Third year / Forth Level | | | |
| **Specialization** | Major | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 1 | 0 | 3 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Design and implement more inclusive urban projects with the larger scale of groups of buildings, infrastructure, streets, and public spaces, entire neighbourhoods and districts, and entire cities, with the goal of making urban environments that are equitable, beautiful, performative, and sustainable (AM3.2) |

## 3. Learning Outcomes (CLOs)

| | |
|---|---|
| CLO15 | Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams. |
| CLO23 | Produce designs that meet the requirements of urban environments users by analysing visual elements, urban form, grain, texture, and social fabric of existing lively streets |
| CLO24 | Deal with the relation between people, buildings, and their surrounding environment including buildings,paths,nodes,landmarks,edges and district |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction : Urban Design principles | 1 |
| Historical Development of urban design | 2 |
| analysis of visual elements, urban form, grain, texture, and social fabric of existing lively streets | 3 |
| Principles of Urban design- Mental Map | 4 |

| | |
|---|---|
| Elements of Urban design: Buildings-paths-Nodes | 5 |
| Elements of Urban design: Landmarks-edges-district | 6 |
| Principles of functional program development of the urban planning team: idea of school unit, idea of the sustainable development.Hierarchy of service centers. | 7 |
| visual form of city analysis: visual image & visual elements of visual form | 8 |
| the socio-urban fabric and its integration between urban development and the economic aspects to achieve sustainability | 10 |
| National models and examples for development with an application of urban areas or existing urban corridors. | 11 |
| international models and examples for development with an application of urban areas or existing urban corridors. | 12 |
| Analysis and redesign of urban spaces. | 13 |
| submission of Semi final projects. | 14 |
| Presentation and submission of final projects. | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (LOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and simulation |
| CLO15 | √ | | - | √ | | | √ | √ | √ | √ | | - |
| CLO23 | | | - | | √ | √ | √ | | √ | | √ | - |
| CLO24 | √ | √ | - | √ | √ | √ | | | | | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | |
| 2 | Mid Term Exam | CLO15,CLO23 |
| 3 | Projects | CLO15,CLO23,CLO24 |
| 4 | Researches | CLO15,CLO23 |
| 5 | **Assignment** | CLO15 |
| 6 | Written Exam | CLO15,CLO23,CLO24 |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

| 6.2 Assessment Schedule | | |
|---|---|---|
| No | **Assessment Method** | **Weeks** |
| 1 | Attendance | weekly |
| 2 | Mid Term Exam | 9 |
| 3 | Projects | 14,15 |
| 4 | Researches | 4,7,10 |
| 5 | Assignment | weekly |
| 6 | Written Exam | 16 |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

| 6.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| | Discussions | | | 10 | 10 |
| | Mid Term Exam | | | 20 | 20 |
| | Projects | | | 10 | 10 |
| | Researches | | | 5 | 5 |
| | Assignment | | | 5 | 5 |
| **Final Exam** | Written exam | 50 | 50 | 50 | 50 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] Lynch, K. (1960) . The image of the city.(2nd edition). MIT Press,ISBN 0-262-62001-4
[2] Adam R. & Randall T. (2009) .Sustainable Urban Design: An Environmental Approach",(2nd edition) Taylor & Francis, ISBN-10 : 0415447828
[3] London F.(2020)(Healthy Placemaking: Wellbeing Through Urban Design",RIBA Publishing,1st edition, ISBN-10 : 1859468837

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture hall |
| White board |
| Data show |

## 9. Matrix of Course Content with Course CLO's

| No. | Topics | Aim | CLO's |
|---|---|---|---|
| 1 | Introduction : Urban Design principles | 1 | CLO24 |
| 2 | Historical Development of urban design | 1 | CLO24 |
| 3 | analysis of visual elements, urban form, grain, texture, and social fabric of existing lively streets | 1 | CLO15,CLO24 |
| 4 | Principles of Urban design- Mental Map | 1 | CLO15,CLO24 |
| 5 | Elements of Urban design: Buildings-paths-Nodes | 1 | CLO15,CLO24 |
| 6 | Elements of Urban design: Landmarks-edges-district | 1 | CLO15,CLO24 |
| 7 | Principles of functional program development of the urban planning team: idea of school unit, idea of the sustainable development.Hierarchy of service centers. | 1 | CLO15,CLO24 |
| 8 | visual form of city analysis: visual image & visual elements of visual form | 1 | CLO15,CLO24 |
| 9 | the socio-urban fabric and its integration between urban development and the economic aspects to achieve sustainability | 1 | CLO15,CLO24 |
| 10 | National models and examples for development with an application of urban areas or existing urban corridors. | 1 | CLO24 |
| 11 | international models and examples for development with an application of urban areas or existing urban corridors. | 1 | CLO24 |
| 12 | Analysis and redesign of urban spaces. | 1 | CLO15,CLO24 |
| 13 | submission of semi final projects. | 1 | CLO15,CLO24 |
| 14 | Presentation and submission of final projects. | 1 | CLO15,CLO24 |

## 10. Matrix of Program PLOs with Course CLOs

| Program PLOs | | Course CLOs | |
|---|---|---|---|
| PLO7 | Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams. | CLO15 | Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams. |
| PLO12 | Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the | CLO23 | Produce designs that meet the requirements of urban environments users by analysing visual elements, urban form, grain, texture, and social fabric of existing lively streets |

| | | | |
|---|---|---|---|
| | buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs | CLO24 | Deal with the relation between people, buildings, and their surrounding environment including buildings,paths,nodes,landmarks,edges and district |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Yasmin Talaat Ismail** | |
| **Head of Department** | **Assoc Prof. Dr. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

برنامج الهندسة المعمارية
المعهد العالي للهندسة والتكنولوجيا
بالتجمع الخامس

**Course Specification**

**Course Code: ARE** 3102 **Course Title: Architectural Design (5)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 3102 | | | |
| **Year/level** | Third year ($4^{th}$ Level) | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 0 | 8 | 0 | 8 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Apply the students for innovative and creative thinking, and solving design problems and requirements of principles of Design and applying it to architectural projects and urban spaces between buildings. (AM2.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO23 | Produce designs that meet the requirements of building users |
| CLO25 | Produce designs with the scale of humanity and its needs |
| CLO27 | choose the structural design, construction, technology used |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction of the project | 1 |
| Lecture on the principles of designing commercial centers + presentation of explaining similar examples | 2 |
| Lecture on the foundations of hotel design + general website delivery | 3 |
| presentation of research | 4 |
| Research Analysis of Similar projects | 5 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200 | 6 |
| Lecture on the foundations of designing companies and administrative | 7 |

| | |
|---|---|
| buildings | |
| sections 1/200 + Elevations 1/200 | 8 |
| Circulation networks integrated with open spaces | 10 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective | 11 |
| Environmental studies and sustainability + delivery of sectors, facades and perspectives for the project | 12 |
| All Project observation | 13 |
| Semifinal project | 14 |
| Final project | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO23 | - | - | - | √ | | | √ | - | √ | - | - | - |
| CLO25 | √ | - | - | √ | | | | - | √ | - | - | - |
| CLO27 | √ | - | - | √ | √ | √ | | - | | - | - | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO23,CLO25 ,CLO27 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | CLO23,CLO25 ,CLO27 |
| 5 | Class works | CLO٢٣,CLO25,CLO27 |
| 6 | Projects | CLO25 ,CLO27 |
| 7 | Researches | CLO23,CLO25,CLO27 |
| 8 | Reports | - |
| 9 | Presentations | CLO25 |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |

| | | |
|---|---|---|
| 2 | Written exam | 16 |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | 14,15 |
| 7 | Researches | 5 |
| 8 | Reports | - |
| 9 | Presentations | 2,4 |
| 10 | Quiz | - |
| 11 | Skiz | - |

### 6.3 Weighting of Assessments

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| | Class works | ٪٦٠ | ٦٠ | 10 | 10 |
| | Projects | | | 20 | 20 |
| | Researches | | | 5 | 5 |
| | Presentations | | | 5 | 5 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Written exam | 40 | 40 | 40 | 40 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] Joseph De Chiara (Author, Editor), Michael J. Crosbie (Author, Editor),Time-Saver Standards for Building Types, 7th Edition, United States of America, 2001, ISBN:9780070163874, 0070163871.

[2] D P Kothari and I J Nagrath, “Modern power System Analysis", Fourth edition, published by Tata McGraw-Hill, 2001, ISBN:9780071077750, 0071077758.

[3] Ernst Neufert (Author), Peter Neufert (Author) ,Bousmaha Baiche (Editor), Nicholas Walliman (Editor), “Neufert s Architects Data 4th Edition”, published by Wiley–Blackwell, 2012, ISBN:9781405192538, 1405192534.

[4] Greenwood, “Electrical Transients in Power Systems", Second Edition, published by Wiley India Pvt. Limited, 2017, ISBN:9788126527298, 8126527293.

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

## 9. Matrix of Course Content with Course CLO’s

| Topics | Aim | CLO's |
|---|---|---|

| | | |
|---|---|---|
| Introduction of the project | 1 | CLO23,CLO25 |
| Lecture on the principles of designing commercial centers + presentation of explaining similar examples | 1 | CLO23,CLO24,CLO27 |
| Lecture on the foundations of hotel design + general website delivery | 1 | CLO23,CLO25,CLO27 |
| presentation of research | 1 | CLO23,CLO27 |
| Research Analysis of Similar projects | 1 | CLO23,CLO27 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200 | 1 | CLO23,CLO25 ,CLO27 |
| Lecture on the foundations of designing companies and administrative buildings | 1 | CLO23,CLO25 |
| sections 1/200 + Elevations 1/200 | 1 | CLO25, CLO27 |
| Circulation networks integrated with open spaces | 1 | CLO25,CLO27 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective | 1 | CLO23,CLO25Z, ,CLO27 |
| Environmental studies and sustainability + delivery of sectors, facades and perspectives for the project | 1 | CLO24,CLO26 ,CLO27 |
| All Project observation | 1 | CLO23,CLO25 ,CLO27 |
| Semifinal project | 1 | CLO23,CLO25 ,CLO27 |
| Final project | 1 | CLO23,CLO25 ,CLO27 |

## 10. Matrix of Program PLOs with Course CLOs

| Program PLOs | | Course CLOs | |
|---|---|---|---|
| PLO12 | Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs | CLO23 | Produce designs that meet the requirements of building users |
| | | CLO25 | Produce designs with the scale of humanity and its needs |
| | | CLO27 | choose the structural design, construction, technology used |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Assocc. Prof. Mohamed Mostafa**<br>**Dr. Nesma Helmy** |  |

| | | |
|---|---|---|
| **Head of Department** | **Assocc. Prof. Reham Othman** | |
| **Date of Approval** | **1/10/2023** | برنامج الهندسة المعمارية المعهد العالي للهندسة والتكنولوجيا بالتجمع الخامس |

**Course Specification**

**Course Code: ARE 3202** **Course Title: Computer Applications in Architecture (2)**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 3202 | | | |
| **Year/level** | Third year / Fourth Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 2 | - | 4 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with 3DMAX software knowledge that enables them to well present their design projects (AM1-1). |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| CLO16 | Communicate effectively – graphically, verbally and understanding computer techniques of design in three dimensions. |
| CLO21 | Create architectural designs that meet aesthetic and technical requirements. |
| CLO22 | Use Adequate knowledge of technologies and computer modeling, simulation, rendering and presentation techniques. |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction to 3DS MAX and overview: | 1 |
| Command Panels – View Ports – Tool Bar – Menu Bar.<br>Exploring interface, exploring 2D shapes, exploring 3D objects, exploring views and navigator, and move, rotate and scale. | 2 |
| Working with 3DS MAX: Clone Types- Pivot Point- Snapping<br>Working with 3DS MAX: Commands: Array | 3 |

| | |
|---|---|
| Creating Shapes<br>Vertex Operations, Segment Operations and Spline Operations. | 4 |
| Modifying Objects: Spline Modifiers: Commands:<br>Extrude | 5 |
| Importing AutoCAD Drawings(DWG): | 6 |
| Spline Modifiers: Commands: Lathe, Sweep, Bevel Profile | 7 |
| 3D Commands Windows & Doors in 3DMAX. | 8 |
| 2D Commands: Loft. | 10 |
| - Editable poly:<br>Part (1)- Selection & Soft Selection.<br>Part (2)- Edit Vertices & Edges.<br>Part (3)- Edit Polygon & Geometry. | 11 |
| Using 2D and 3D commands to create models of interior spaces and furniture. Lightings (Part 1+ Part 2) /<br>Materials (Part 1+ Part 2)/ Cameras. | 12 |
| Render. | 13 |
| Starting final project using 3DMAX skills. | 14 |
| Final project evaluation for all required drawings. | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| CLO16 | √ | √ | √ | - | √ | - | - | - | - | | | |
| CLO21 | √ | √ | √ | - | √ | - | - | - | - | √ | √ | √ |
| CLO22 | √ | √ | √ | - | √ | - | - | - | - | √ | √ | √ |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | CLO21,CLO22 |
| 4 | Mid Term Exam | CLO21,CLO22 |
| 5 | Class works | CLO16CLO21,CLO22 |
| 6 | Projects | CLO21,CLO22 |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | - |

| | | |
|---|---|---|
| 11 | Skiz | - |

| 6.2 Assessment Schedule | | |
|---|---|---|
| No. | **Assessment Method** | **Weeks** |
| 1 | Attendance | - |
| 2 | Written exam | 16 |
| 3 | Discussions | - |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | Week 14,15 |
| 7 | Researches | - |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Quiz | - |
| 11 | Skiz | - |

| 6.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| | Class works | | | 20 | 20 |
| | Projects | | | 10 | 10 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Written exam | 50 | 50 | 50 | 50 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References


- Trevor Hill(2023). The Essential Beinners Guide to 3DS Max: A Handbook for Getting Started with the Basics (2023 Edition) (The Essential Beginners Guide to...) Kindle Edition, ASIN : B0BSRZ4CHC
- ASCENT (Authors) (2022). Autodesk 3ds Max 2022 Fundamentals, ISBN 101630574244
- DR.MARWA EMAD YOUTUBE CHANNEL.
- Autodesk 3dsmax website /3Ds MAX 2020.


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

## 9. Matrix of Course Content with CourseC LO's

| Topics | Aim | LO's |
|---|---|---|
| Introduction to 3DS MAX and overview: | 1 | - |
| Command Panels – View Ports – Tool Bar – Menu Bar.<br>Exploring interface, exploring 2D shapes, exploring 3D objects, exploring views and navigator, and move, rotate and scale. | 1 | CLO16,CLO21 |
| Working with 3DS MAX: Clone Types- Pivot Point- Snapping<br>Working with 3DS MAX: Commands: Array | 1 | CLO16,CLO21 |
| Creating Shapes<br>Vertex Operations, Segment Operations and Spline Operations. | 1 | CLO16,CLO21 |
| Modifying Objects: Spline Modifiers: Commands: Extrude | 1 | CLO16,CLO21 |
| Importing AutoCAD Drawings(DWG): | 1 | CLO16,CLO21 |
| Spline Modifiers: Commands: Lathe, Sweep, Bevel Profile | 1 | CLO16,CLO21 |
| 3D Commands Windows & Doors in 3DMAX. | 1 | CLO16, CLO21,CLO22 |
| 2D Commands: Loft. | 1 | CLO16,CLO21 |
| - Editable poly:<br>Part (1)- Selection & Soft Selection.<br>Part (2)- Edit Vertices & Edges.<br>Part (3)- Edit Polygon & Geometry. | 1 | CLO16,CLO21 |
| Using 2D and 3D commands to create models of interior spaces and furniture. Lightings (Part 1+ Part 2) /<br>Materials (Part 1+ Part 2)/ Cameras. | 1 | CLO21 |
| Render. | 1 | CLO21 |
| Starting final project using 3DMAX skills. | 1 | CLO16,CLO21 |
| Final project evaluation for all required drawings. | 1 | CLO16,CLO21 |

## 10. Matrix of Program PLOs with Course CLOs

| ProgramP LOs | | CourseC LOs | |
|---|---|---|---|
| PLO8 | Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools. | **CLO16** | Communicate effectively – graphically, verbally and understanding computer techniques of design in three dimensions. |

| | | | |
|---|---|---|---|
| PLO11 | Prepare design project briefs and documents and understand the architect's context in the construction industry including, This includes his role in the bidding and procurement of architectural services and the production of buildings | CLO21 | Create architectural designs that meet aesthetic and technical requirements. |
| | | CLO22 | Use Adequate knowledge of technologies and computer modeling, simulation, rendering and presentation techniques. |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Marwa Emad** | |
| **Head of Department** | **Assoc. Prof. Reham Othman** | |
| **Date of Approval** | **07/10/2023** | |

برنامج الهندسة المعمارية
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**Course Specification**
**Course Code: ARE 4271 Course Title: Elective Course (4) Humanities in Architecture**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture department | | | |
| **Department offering the program** | Architecture department | | | |
| **Department offering the course** | Architecture department | | | |
| **Course Code** | ARE 4271 | | | |
| **Year/Level** | Fourth-year/ Fifth Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 3 | 2 | - | 5 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Train the students for innovative and creative thinking of global thought toward the human trend in architecture and urbanism, and the science of ergonomics and its fields of application in architecture. Describing and solving design problems and requirements using scientific methods that ensure meeting the needs of present and future generations in terms of social, cultural, environmental, and economic aspects as an entry point for achieving sustainable development and applying it to architectural projects. (AM2.2) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| Clo19 | Acquire and apply new knowledge. |
| Clo20 | Practice self, lifelong and other learning strategies. |
| Clo24 | Deal with the relation between people, buildings, and their surrounding environment |
| Clo25 | Produce designs with the scale of humanity and its needs |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction to the study of Environment and behavior | 1 |
| The shift in global thought towards the human trend in architecture & urbanism | 2 |
| The science of ergonomics and its fields of application in architecture | 3 |
| Human nature and needs (Maslow's hierarchy) | 4 |
| The nature of man and his needs (Gashlett theory) | 5 |
| The Role of behavioral sciences in designing urban spaces | 6 |
| Behavioral unit and terms of use in the design | 7 |
| The mental image, for a sense of beauty | 8 |
| The characteristics of a good shape and its impact on the user | 10 |
| The gap between the designer and the user | 11 |
| The space, its characteristics, and its role in adapting to the user | 12 |
| Behavioral unit and terms of use in the design | 13 |
| The mental image, for a sense of beauty and its impact on the user | 14 |
| The characteristics of a good shape and its impact on the user | 15 |

## 5. Teaching and Learning methods

| Course Learning Outcomes (CLos) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| Clo19 | √ | | - | √ | - | √ | √ | √ | √ | | - | - |
| Clo20 | √ | | - | √ | - | | √ | | √ | √ | - | - |
| Clo24 | √ | √ | - | √ | - | √ | | | | √ | - | - |
| Clo25 | √ | √ | - | √ | - | √ | √ | √ | | √ | - | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | ---------- |
| 2 | Written Exam | **Clo19, Clo20, Clo24, Clo25** |
| 3 | Discussions | **Clo19, Clo25** |
| 4 | Mid Term Exam | **Clo19, Clo20, Clo24** |
| 5 | Class works | **Clo24, Clo25** |
| 6 | Researches | **Clo19, Clo20, Clo24, Clo25** |
| 7 | Presentations | **Clo20, Clo24, Clo25** |
| 8 | Quiz | **Clo24, Clo25** |

### 6.2 Assessment Schedule

| No | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written Exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | 4 & 12 |
| 6 | Researches | Bi-week |
| 7 | Presentations | Bi-week |
| 8 | Quiz | 4 & 12 |

### 6.3 Weighting of Assessments

| Assessment Method | | | | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 50 | 50% | 5% | 5 |
| | Mid-term exam | | | 20% | 20 |
| | Assignment | | | 5% | 5 |
| | Presentations | | | 5% | 5 |
| | Researches | | | 10% | 10 |
| | Quiz | | | 5% | 5 |
| **Final Exam** | Written exam | **50** | 50% | 50% | 50 |
| | | **Total** | | 100% | 100 |

## 7. List of References

[1] K. M. Dessie, Thomas LA swell (2022) Human considerations in architectural design, King Saud University Publishing House, architectural design,
[2] London F. (2023) (Healthy Place making: Wellbeing Through Urban Design", RIBA Publishing,1st edition, ISBN-10: 1859468837
[3] Lynch, K. (2021). The image of the city. (6TH edition). MIT Press, ISBN 0-262-62001-4

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture |
| Whiteboard |
| LMS |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Introduction to the study of Environment and behavior | 1 | **Clo19, Clo20** |
| The shift in global thought towards the human trend in architecture and urbanism | 1 | **Clo19, Clo20** |
| The science of ergonomics and its fields of application in architecture | 1 | **Clo24, Clo25** |
| Human nature and needs (Maslow's hierarchy) | 1 | **Clo24, Clo25** |
| The nature of man and his needs (Gashlett theory) | 1 | **Clo24** |
| The Role of behavioral sciences in designing urban spaces | 1 | **Clo24** |
| Behavioral unit and terms of use in the design | 1 | **Clo19, Clo24** |
| The mental image, for a sense of beauty | 1 | **Clo24, Clo25** |
| the characteristics of a good shape and its impact on the user | 1 | **Clo19, Clo24, Clo25** |
| The gap between the designer and the user | 1 | **Clo20, Clo25** |
| The space, its characteristics, and its role in adapting to the user | 1 | **Clo19, Clo24** |
| Behavioral unit and terms of use in the design | 1 | **Clo24, Clo25** |
| The mental image, for a sense of beauty and the characteristics of a good shape and its impact on the user | 1 | **Clo24, Clo25** |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| Plo10 | Acquire and apply new knowledge; and practice self, lifelong and other learning strategies. | Clo19 | Acquire and apply new knowledge. |
| | | Clo20 | Practice self, lifelong and other learning strategies. |
| Plo12 | Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs | Clo24 | Deal with the relation between people, buildings, and their surrounding environment |
| | | Clo25 | Produce designs with the scale of humanity and its needs |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Assoc Prof. Rania Badawy** | rania 23/12/4 |
| **Head of Department** | **Assoc Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

برنامج الهندسة المعمارية
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**Course Specification**

**Course Code: ARE 4105** **Course Title:** Professional Practice & Legislation

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering Department | | | |
| **Department offering the program** | Architecture Engineering Department | | | |
| **Department offering the course** | Architecture Engineering Department | | | |
| **Course Code** | **ARE 4105** | | | |
| **Year/level** | Fourth year / Fifth Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 2 | 1 | - | 3 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Link between the participating sectors in the construction and development operation of communities and between the graduates of the program. (AM4.1) |
| 2 | Enable students to possess knowledge of regulations and laws and commitment to ethics and professional practice. (AM4.3) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| **Clo6** | Apply engineering design processes to produce cost-effective solutions. |
| **Clo7** | Meet specified needs with consideration for ethical aspects. |
| **CLO9** | Utilize codes of practice and standards. |
| **Clo29** | Transform design concepts into buildings and integrating plans within restrictions with regulations |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction of the course (Engineering projects stages and types of drawings) | 1 |
| Obligations of the owner, contractor and engineer | 2 |
| Organization of construction works (internal heights - internal surface - internal dimension - flat openings - doors) | 3 |
| Organization of construction works (requirements for stairs - courtyards) | 4 |
| Licensing documents - Deciding on the license - Obligations of the license applicant | 5 |
| Follow up on the group project | 6 |
| Building validity certificate for occupancy | 7 |
| Building requirements at road intersections | 8 |

| | |
|---|---|
| Types of contracting and contracting contracts | 10 |
| Types of tender | 11 |
| Organization of construction works (cornices and protrusions - balconies) | 12 |
| The Law of Reconciliation in Urbanization 2019 | 13 |
| Professional ethics | 14 |
| Final Project Submission | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| **Clo6** | √ | - | - | - | - | - | - | | √ | - | - | - |
| **Clo7** | - | - | - | √ | √ | - | - | √ | - | √ | √ | - |
| **Clo9** | √ | √ | - | √ | √ | - | - | - | - | - | - | - |
| **Clo29** | √ | √ | - | √ | √ | - | - | √ | √ | √ | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | Clos |
|---|---|---|
| 1 | Attendance | - |
| 2 | Written exam | **Clo6, Clo7, Clo29** |
| 3 | Discussions | **Clo7, Clo29** |
| 4 | Mid Term Exam | **Clo6, Clo7, Clo29** |
| 5 | Class works | **Clo9, Clo29** |
| 6 | Projects | **Clo7, Clo9, Clo29** |
| 7 | Researches | **Clo7, Clo9, Clo29** |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Laboratory | - |
| 11 | Quiz | - |
| 12 | Skiz | - |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | Weekly |
| 2 | Written exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | 3-6 |

| | | |
|---|---|---|
| 6 | Projects | 3-6-10 |
| 7 | Researches | 3-6-10 |
| 8 | Reports | - |
| 9 | Presentations | - |
| 10 | Laboratory | - |
| 11 | Quiz | - |
| 12 | Skiz | - |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 50 | 50 | 5 | 5 |
| | Class works | | | 5 | 5 |
| | Projects | | | 10 | 10 |
| | Researches | | | 10 | 10 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Final exam | 50 | 50 | 50 | 50 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References


- الجريدة الرسمية، "قانون البناء الموحد رقم ١١٩ لعام ٢٠٠٨"، عدد ١٤ مكرر، جمهورية مصر العربية، ٢٠١٩.
- اتحاد المهندسين العرب، "ميثاق أخلاق مهنة الهندسة"، يناير ٢٠١٨.
- أحمد القطان، "العقود والمواصفات الحاكمة بين المالك والاستشاري والمقاول"، دار الكتب العلمية للنشر والتوزيع، القاهرة، ٢٠٢١.


## 8. Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| LMS |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Introduction of the course (Engineering projects stages and types of drawings) | 1 | **Clo6** |
| Obligations of the owner, contractor and engineer | 1 | **Clo6, Clo7** |
| Organization of construction works (internal heights - internal surface - internal dimension - flat openings - doors) | 2 | **Clo9, Clo29** |
| Organization of construction works (requirements for stairs - courtyards) | 2 | **Clo9, Clo29** |

| | | |
|---|---|---|
| Licensing documents - Deciding on the license - Obligations of the license applicant | 1,2 | **Clo6, Clo29** |
| Follow up on the group project | 2 | **Clo7, Clo29** |
| Building validity certificate for occupancy | 1 | **Clo7, Clo29** |
| Building requirements at road intersections | 1 | **Clo7, Clo29** |
| Types of contracting and contracting contracts | 1 | **Clo6, Clo7** |
| Types of tender | 1 | **Clo7** |
| Organization of construction works (cornices and protrusions - balconies) | 2 | **Clo9, Clo29** |
| The Law of Reconciliation in Urbanization 2019 | 1 | **Clo7** |
| Professional ethics | 2 | **Clo7** |
| Final Project Submission | 2 | **Clo7, Clo29** |

## 10. Matrix of Program LOs with Course Los

| Program Los | | Course Los | |
|---|---|---|---|
| **Plo3** | Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical, and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development. | **Clo6** | Apply engineering design processes to produce cost-effective solutions. |
| | | **Clo7** | Meet specified needs with consideration for global, cultural, social, economic, environmental, and ethical aspects. |
| **Plo4** | Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles. | **Clo9** | Utilize codes of practice and standards. |
| **Plo14** | Transforming design concepts into buildings and integrating plans into comprehensive planning within restrictions: Financing Project - Project management - Cost control - Project delivery methods, having sufficient knowledge relevant industries, organizations, regulations and procedures. | **Clo29** | Transform design concepts into buildings and integrating plans within restrictions with regulations |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Hadeel Mahmoud** | |
| **Head of Department** | **Assocc. Prof. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

برنامج الهندسة المعمارية
المعهد العالي للهندسة والتكنولوجيا
بالمجمع الخامس

**Course Specification**

**Course Code: ARE 4299** **Course Title: Project**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 4299 | | | |
| **Year/level** | Fourth year / Fifth Level | | | |
| **Specialization** | **Major** | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 0 | 16 | 0 | 16 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | Provide the students with the capacity to prepare flexible and ecologically responsible designs by understanding modern structural and technological designs. (AM5.1) |
| 2 | Use the fast-technological development in designing several projects. (AM7.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| Clo23 | Produce designs that meet the requirements of building users |
| Clo24 | Deal with the relation between people, buildings, and their surrounding environment |
| CLO25 | Produce designs with the scale of humanity and its needs |

## 4. Course Contents

| Topics | Week |
|---|---|
| Introduction of the project | 1 |
| Introduction of the project | |
| Research for the Project + Skiz1 | 2 |
| Research Presentation + Skiz1 | |
| Layout 1/500 | 3 |
| Layout 1/500 | |
| Layout 1/500 + Ground floor plan 1/400 | 4 |
| Layout 1/500 + Ground floor plan 1/400 | |
| Layout 1/500 + Ground floor plan 1/400 | 5 |
| Layout 1/500 + Ground floor plan 1/400 | |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200 + typical floors | 6 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200 + typical floors | |
| sections 1/200 + Elevations 1/200 | 7 |
| sections 1/200 + Elevations 1/200 | |
| Skiz 2(Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective ) | 8 |

| | |
|---|---|
| Revision Skiz 2(Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective ) | |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective | 10 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective | |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective | 11 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective | |
| All Project observation | 12 |
| All Project observation | |
| All Project observation | 13 |
| All Project observation | |
| All Project observation | 14 |
| All Project observation | |
| Semifinal project | 15 |
| Final project | |

## 5.Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and Simulation |
| Clo23 | | | - | √ | | √ | - | √ | - | | | - |
| Clo24 | | √ | - | | √ | | - | √ | - | √ | √ | - |
| CLO25 | | √ | - | | √ | | - | | - | √ | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | Clos |
|---|---|---|
| 1 | Attendance | - |
| 2 | Oral exam | **Clo23, Clo24, Clo25** |
| 3 | Discussions | **Clo23, Clo24** |
| 4 | Mid Term Exam | **Clo23, Clo24** |
| 5 | Class works | **Clo23, Clo24, Clo25** |
| 6 | Projects | **Clo23, Clo24, Clo25** |
| 7 | Researches | **Clo23** |
| 8 | Reports | - |
| 9 | Presentations | **Clo23** |
| 10 | Quiz | - |

| | | |
|---|---|---|
| 11 | Skiz | **Clo23, Clo24, Clo25** |

**6.2 Assessment Schedule**

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | - |
| 2 | Oral exam | 16 |
| 3 | Discussions | weekly |
| 4 | Mid Term Exam | 9 |
| 5 | Class works | weekly |
| 6 | Projects | 15 |
| 7 | Researches | 2 |
| 8 | Reports | - |
| 9 | Presentations | 2 |
| 10 | Quiz | - |
| 11 | Skiz | 6,11 |

**6.3 Weighting of Assessments**

| | Assessment Method | Weights% | Weights | Weights% | Weights |
|---|---|---|---|---|---|
| **Teacher Opinion** | Discussions | 100 | 100 | 5 | 5 |
| | Class works | | | 20 | 20 |
| | Projects | | | 25 | 25 |
| | Researches | | | 6 | 6 |
| | Presentations | | | 4 | 4 |
| | Skiz | | | 20 | 20 |
| | Mid-term exam | | | 20 | 20 |
| **Final Exam** | Oral exam | 100 | 100 | 100 | 100 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7.List of References

[1] Nathalie Bonnardel, Alicja Wojtczuk, Pierre - YvesGilles, SylvainMazon, (2018), “The creative process in design”, ISBN-13: 978-1401861643.
[2] Ruoyu Jin, (2019), “Sustainable Construction Technologies”, London South Bank University, ISBN 9780128117491.
[3] Lee Hwa-Jeong, (2020), “ACA: Architecture competition annual. Vol 14 (Education / Culture/ Welfare & Sports)”, Publisher : Archiworld Co.Ltd, Koria, ISBN-13: 978-8957708194.
[4] Frohlich,A. & Lippok,S., (2019), “Plans and Images: An Archive of Projects on Typology in Architecture 2013-2018, THE UNIVERSITY OF CHICAGO PRESS , Germany, ISBN 13: 9783038601388.

## 8.Facilities required for teaching and learning

| |
|---|
| Lecture/Classroom |
| White board |
| Data show |

## 9.Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Introduction of the project | 1 | Clo23 |
| Introduction of the project | 1 | |
| Research for the Project + Skiz1 | 1&2 | Clo23, Clo24 |
| Research Presentation + Skiz1 | 1&2 | |
| Layout 1/500 | 1&2 | Clo23, Clo24 |
| Layout 1/500 | 1&2 | |
| Layout 1/500 + Ground floor plan 1/400 | 1&2 | Clo23, Clo24 |
| Layout 1/500 + Ground floor plan 1/400 | 1&2 | |
| Layout 1/500 + Ground floor plan 1/400 | 1&2 | Clo23, Clo24 |
| Layout 1/500 + Ground floor plan 1/400 | 1&2 | |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200 + typical floors | 1&2 | Clo23, Clo24 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200 + typical floors | 1&2 | |
| sections 1/200 + Elevations 1/200 | 1&2 | Clo24, Clo25 |
| sections 1/200 + Elevations 1/200 | 1&2 | |
| Skiz 2(Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective ) | 1&2 | Clo24, Clo25 |
| Revision Skiz 2(Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective ) | | |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective | 1&2 | Clo23, Clo24, Clo25 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective | | |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective | 1&2 | Clo23, Clo24, Clo25 |
| Layout 1/500 + Ground floor plan 1/200 + sections 1/200+ sections 1/200 + Elevations 1/200+Prespective | | |
| All Project observation | 1&2 | Clo23, Clo24, Clo25 |
| All Project observation | | |
| All Project observation | 1&2 | Clo23, Clo24, Clo25 |
| All Project observation | | |
| All Project observation | 1&2 | Clo23, Clo24, Clo25 |
| All Project observation | | |
| Semifinal project | 1&2 | Clo23, Clo24, Clo25 |
| Final project | | |

## 10.Matrix of Program LOs with Course Los

| Program Los | Course Los |
|---|---|

| | | | |
|---|---|---|---|
| Plo12 | Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs | CLO23 | Produce designs that meet the requirements of building users |
| | | CLO24 | Deal with the relation between people, buildings, and their surrounding environment |
| | | CLO25 | Produce designs with the scale of humanity and its needs |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Prof. Dr. Ahmed Yehia**<br>**Prof. Dr. Usama Nassar**<br>**Dr. Hadeel Mahmoud**<br>**Dr. Nesma Helmy** | |
| **Head of Department** | **Associa. Prof. Reham Othman** | |
| **Date of Approval** | **1/10/2023** | برنامج الهندسة المعمارية<br>المعهد العالي للهندسة والتكنولوجيا<br>بالتجمع الخامس |

Ministry of Higher Education
Higher Institute of Engineering and Technology
Architecture Eng. department

**Course Specification**

**Course Code: Are 4263 Course Title: Elective Course (3) Urban Renewal**

## 1. Basic information

| | | | | |
|---|---|---|---|---|
| **Program Title** | Architecture Engineering | | | |
| **Department offering the program** | Architecture Engineering | | | |
| **Department offering the course** | Architecture Engineering | | | |
| **Course Code** | ARE 4263 | | | |
| **Year/level** | Fourth year /Fifth Level | | | |
| **Specialization** | Major | | | |
| **Teaching Hours** | Lectures | Tutorial | Practical | Total |
| | 3 | 2 | 0 | 5 |

## 2. Course Aims

| No. | Aim |
|---|---|
| 1 | link between the participating sectors in the construction and development operation of urban communities and between the graduates of the program in the fields of urban renewal (AM4.1) |

## 3. Course Learning Outcomes (CLOs)

| | |
|---|---|
| **Clo7** | Meet specified needs with consideration for social, economic and legal aspects of urban renewal |
| **Clo8** | Achieve the principles of design within the complex of urban problems, including unsanitary, deficient, or obsolete housing |
| **Clo26** | Prepare environmentally responsible designs to preserve and rehabilitate the environment |

## 4. Course Contents

| Topics | Week |
|---|---|
| Concepts, definitions, introduction to the issue of renewal of urban areas | 1 |
| Urbanization and expansion of urban cities- Heritage Impact Assessment | 2 |
| Urban Renewal Plans | 3 |
| urban regeneration policies in Egypt | 4 |
| Buildings Conservations | 5 |
| Restoration of culture heritage | 6 |

| | |
|---|---|
| Preservations of culture heritage | 7 |
| National urban renewal projects | 8 |
| International urban renewal projects | 10 |
| Release of the project | 11 |
| Tools for the implementation of revaluation processes of urban areas part 1 | 12 |
| Tools for the implementation of revaluation processes of urban areas part 2 | 13 |
| researches submission | 14 |
| Final Project submission | 15 |

## 5. Teaching and Learning methods

| Course learning Outcomes (CLOs) | Teaching and Learning Methods | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Assignment | Labs | Research and Reports | Projects | Presentation | Site Visits | Discussion and Dialogue | Brain storm | E-Learning | Self-learning | Modeling and simulation |
| **Clo7** | √ | - | - | | | | √ | - | √ | √ | | - |
| **Clo8** | √ | - | - | √ | √ | √ | √ | | √ | | √ | - |
| **Clo26** | | - | - | √ | √ | √ | | | | | √ | - |

## 6. Students' Assessment

### 6.1 Students' Assessment Method

| No. | Assessment Method | CLOs |
|---|---|---|
| 1 | Attendance | ---------- |
| 2 | Mid Term Exam | **Clo7, Clo8** |
| 3 | Projects | **Clo8, Clo26** |
| 4 | Researches | **Clo8, Clo26** |
| 5 | Presentations | **Clo8, Clo26** |
| 6 | Written Exam | **Clo7, Clo8, Clo26** |

### 6.2 Assessment Schedule

| No. | Assessment Method | Weeks |
|---|---|---|
| 1 | Attendance | weekly |
| 2 | Mid Term Exam | 9 |
| 3 | Projects | 15 |
| 4 | Researches | 14 |
| 5 | Presentations | 15 |
| 6 | Written Exam | 16 |

| 6.3 Weighting of Assessments | | | | | |
|---|---|---|---|---|---|
| | **Assessment Method** | **Weights%** | **Weights** | **Weights%** | **Weights** |
| **Teacher Opinion** | Mid Term Exam | 50 | 50 | 20 | 20 |
| | Projects | | | 10 | 10 |
| | Researches | | | 10 | 10 |
| | Presentations | | | 10 | 10 |
| **Final Exam** | Written exam | 50 | 50 | 50 | 50 |
| **Total** | | 100 | 100 | 100 | 100 |

## 7. List of References

[1] Steffen L. (2019), Urban Regeneration, (2nd ed.). Palgrave Macmillan Cham- ISBN 978-3-030-04710-8

[2] Yanli W., Bing W., Linbo L.(2021). Urban Redevelopment and Traffic Congestion Management Strategies. Publisher: Springer Nature Singapore. ISBN : 9780415447706 A-d/132-

[3] Millspaugh M. & Gurney V. (2018). The Human Side of Urban Renewal: A Study of the Attitude Changes Produced by Neighborhood Rehabilitation. Sagwan Press,1st edition, ISBN-10 : 1376881357

## 8. Facilities required for teaching and learning

| |
|---|
| Lecture hall |
| White board |
| Google Classroom |
| Data show |

## 9. Matrix of Course Content with Course LO's

| Topics | Aim | CLO's |
|---|---|---|
| Concepts, definitions, introduction to the issue of renewal of urban areas | 1 | **Clo7** |
| Urbanization and expansion of urban cities- Heritage Impact Assessment | 1 | **Clo7, Clo8** |
| Urban Renewal Plans | 1 | **Clo8, Clo26** |
| urban regeneration policies in Egypt | 1 | **Clo7, Clo8** |
| Buildings Conservations | 1 | **Clo8, Clo26** |
| Restoration of culture heritage | 1 | **Clo7, Clo8, Clo26** |
| Preservations of culture heritage | 1 | **Clo8, Clo26** |
| National urban renewal projects | 1 | **Clo8, Clo26** |
| International urban renewal projects | 1 | **Clo8, Clo26** |
| Release of the project | 1 | **Clo7, Clo8, Clo26** |

| | | |
|---|---|---|
| Tools for the implementation of revaluation processes of urban areas : land use plans, decisions pertaining to conditions of development. | 1 | **Clo7, Clo8, Clo26** |
| Semi Final Project & researches submission | 1 | **Clo7, Clo8, Clo26** |
| Final Project & researches submission | 1 | **Clo7, Clo8, Clo26** |

## 10. Matrix of Program LOs with Course LOs

| Program LOs | | Course LOs | |
|---|---|---|---|
| Plo3 | Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical | **Clo7** | Meet specified needs with consideration for global, cultural, social, economic, environmental, and ethical aspects. |
| | | **Clo8** | Achieve the principles of design within the principles and contexts of sustainable design and development. |
| Plo13 | Preparing environmentally responsible designs to preserve and rehabilitate the environment through an understanding of urban renewal | **Clo26** | Prepare environmentally responsible designs to preserve and rehabilitate the environment |

| Title | Name | Signature |
|---|---|---|
| **Course coordinator** | **Dr. Yasmin Talaat Ismail** | |
| **Head of Department** | **Assoc Prof. Dr. Reham Othman** | |
| **Date of Approval** | **7/10/2023** | |

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المعهد العالي للهندسة والتكنولوجيا
بالتجمع الخامس