



Jordan University of Science and Technology  
Faculty of Engineering  
Aeronautical Engineering Department

**Course name and number:**

|                                    |
|------------------------------------|
| <b>AE592 Graduation Project II</b> |
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**Credit, contact hours and categorization:**

| Credit and contact hours | Contact hours  | Categorization    |
|--------------------------|----------------|-------------------|
| 3 Credit Hours           | Weekly meeting | Engineering Topic |

**Instructor's or course coordinator's name:**

|                 |                       |
|-----------------|-----------------------|
| Name            | Dr. Yazan Taamneh     |
| Office location | N1-L2                 |
| Email address   | ymtaamneh@just.edu.jo |

**Textbook and other supplemental materials:**

| Textbook          |   |         |                   |
|-------------------|---|---------|-------------------|
| Title             | AE Assessment Rubrics for BS Projects, available from the BS by the project advisor or project advisor or Committee |         |                   |
| Author(s)         | Committee   |         |                   |
| Edition           |   |         |                   |
| Other Information |   |         |                   |
| References        |   |         |                   |
| Book Name         | Author(s)   | Edition | Other Information |
|                   |   |         |                   |

**Course information:**

| Course Catalogue   |                            |                      |
|--|----------------------------|----------------------|
| Basics of elasticity. Bending, buckling, and Vibration of Euler-Bernoulli beam. Aerodynamic loads. Functions of structural components. Fabrication of structural components. Principles of stressed skin construction; bending, shear, and torsion of open and closed thin-walled, single and multi-cell, cross section beams, including shear center and structural idealization. |                            |                      |
| <b>Course type</b> : This course is <b>required</b> to fulfill the program.  |                            |                      |
| Prerequisites or co-requisites   |                            |                      |
| Line Number  | Course Name                | Prerequisite Type    |
| 715911   | AE591 Graduation Project I | Prerequisite / Study |
| 714901   | AE490 Engineering Training | Prerequisite / Study |



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**Specific goals of the course :**

| Specific outcomes of instruction and the student outcomes (SO) mapping   |   |                                     |
|--|---|-------------------------------------|
| Outcomes   | SO Mapping                                | Course Outcome Weight (Out of 100%) |
| Integrate previous knowledge from mathematics, basic sciences, engineering fundamentals and discipline related courses to address the problem  | 20SO 1                                    | 20%                                 |
| Generate possible solutions; compare alternatives and select one alternative based on evaluation criteria and feasibility analysis.  | 3SO 2, 2SO 5, 5SO 6, 2SO 7, 2SO 8         | 14%                                 |
| Implement a planned design strategy for an Experimental Design Project, if applicable  | 3SO 2, 10SO 4, 2SO 5, 5SO 6, 2SO 7, 3SO 8 | 25%                                 |
| Implement a planned design strategy for a Product-Based Design Project, if applicable.   | 2SO 2, 10SO 4, 1SO 5, 1SO 7, 6SO 8        | 20%                                 |
| Communicate design details and express thoughts clearly and concisely, both orally and in writing, using necessary supporting material, to achieve desired understanding and impact. | 2SO 2, 10SO 3, 9SO 8                      | 21%                                 |

**Brief list of topics to be covered:**

| Tentative List of Topics Covered |  |            |
|----------------------------------|--|------------|
| Weeks                            | Topic  | References |
| Week 1-3                         | Problem formulation: a. Knowledge integration b. Operational and realistic constraints c. Design objectives d. Evaluation criteria |            |
| Weeks 3, 4                       | Design options and initial layout  |            |
| Weeks 4, 5                       | Work plan and budgeting  |            |
| Weeks 5, 6                       | Progress report and oral presentation  |            |
| Weeks 7-12                       | Implementation phase   |            |
| Weeks 12-14                      | Design refinement  |            |
| Weeks 15-16                      | Final report and oral presentation   |            |