Republic of Iraq

Ministry of Higher Education & Scientific Research

Supervision and Scientific Evaluation Directorate

Quality Assurance and Academic Accreditation

InternationalAccreditation Dept.

Academic Program Specification FormFor The Academic Year 2017-2018

Universitiy: Baghdad

College : Engineering

Number Of Departments In The College : 12 Twelve

Date Of Form Completion : April – 3 / 2018

Dean ’s Name

Date : / 4 / 2018

Signature

Dean ’s Assistant For Scientific Affairs

Date : / / 2018

Signature

The College Quality Assurance And University Performance Manager

Date : / / 2018

Signature

Quality Assurance And University Performance Manager

Date : / / 2018

Signature

**TEMPLATE FOR COURSE SPECIFICATION**

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| HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW |

**COURSE SPECIFICATION**

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| This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve anddemonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification. |

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| College of Engineering  University of Baghdad | ***1. Teaching Institution*** |
| Mechanical Engineering Department | ***2. University Department/Centre*** |
| Introduction to aeronautical science  This course introduces thedescription of phenomena associated with aeroplane ,wings, airfoils, lift, drag, boundary layer.  The course istaught through 2hrs per weektheories | ***3. Course title/code& Description*** |
| Mechanical Engineering | ***4. Programme(s) to which itContributes*** |
| Annual System ; There is only onemode of delivery, which is a “DayProgram”. The students are full timestudents, and on campus. They attendfull day program in face-to-face  mode. The academic year iscomposed of 30-week regular subjects. | ***5. Modes of Attendance offered*** |
| 1st & 2nd / Academic Year 2017 - 2018 | ***6. Semester/Year*** |
| 60 hrs. / 2 hrs. per week | ***7. Number of hours tuition (total)*** |
| April- 3 / 2018 | ***8. Date of production/revision of this specification*** |
| ***9. Aims of the Course*** | |
| 1. To study the principles of aerodynamics. | |

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| ***10·Learning Outcomes***  At the end of the class, the student will be able to know airfoil, aircraft wing and its shapes and the lift distribution on each wing.: |
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| ***11.Teaching and Learning Methods*** |
| . Lectures.1-  . Homework and Assignments.2-  . Tests and Exams.3-  . In-Class Questions and Discussions.4-  . Connection between Theory and Application.5-  6- In- and Out-Class oral conservations. |
| ***12. Assessment Methods***  ***.*** Examinations, Tests, and Quizzes.  . Extracurricular Activities.  ***.*** Student Engagement during Lectures |
| ***13. Grading Policy***  1-Quizzes  - There will be a ( 8 ) closed books and notes quizzes during the academic year inIntroduction to aeronautical science  - The quizzes will count 30% of the total course grade  Final Exam:2-  - The final exam will be comprehensive, closed books and notes, and will take place on June 2018 from 9:00 AM - 12:00 PM))  - The final exam will count 70% of the total course grade, |

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| ***14. Course Structure*** | | | | | |
|  |  |  |  |  | Week |
| CH.1 Fundamental Principles. | | | | | 1 |
| Characteristics of air flow | | | | | 2 |
| Streamline and streamline pattern | | | | | 3 |
| Airfoil terminology, chord line,thickness, aerodynamic center andcenter of pressure | | | | | 4 |
| Relative wind | | | | | 5 |
| NACA airfoils | | | | | 6 |
| CH2 LIFT | | | | | 7 |
| The aerodynamic force | | | | | 8 |
| The factors affecting lift | | | | | 9 |
| stall | | | | | 10 |
| CH.3 Boundary Layer | | | | | 11 |
| Boundary Layer and its separation | | | | | 12 |
| 13 |
| 14 |
| 15 |
| CH.4 Drag | | | | | 16 |
| 1-drag and its types  2-factors that affect the drag | | | | | 17 |
| 18 |
| 3-the drag coefficient and its curve | | | | | 19 |
| 20 |
| CH.5 Wings. | | | | | 21 |
|  | | | | | 22 |
|  |  |  |  |  | 23 |
|  |  |  |  |  | 24 |
| CH.6 High Lift Devices. | | | | | 25 |
| Flaps, Slots and Slats | | | | | 26 |
| 27 |
| CH7 Flight Control Surfaces. | | | | | 28 |
| Ailerons, Elevator and Rudder | | | | | 29 |
| 30 |

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| ***15. Infrastructure*** | | |
| 1-Aircraft Flight  Third edition  By R H Barnard  D R Philpott(2004)  2-Fundamentals of  Aerodynamics  second edition  John D. Anderson, Jr.(1991)  3-Understanding flight  By David F. Anderson  Scott Eberhardt(2001)  OTHERS  1. Notebook prepared by the instructor of the course | Required reading:  · CORE TEXTS  · COURSE MATERIALS  · OTHER | |
| •Available websites related to the subject. | Special requirements (include forexample workshops, periodicals,IT software, websites) | |
| •Field and scientific visits | Community-based facilities  (include for example, guest  Lectures , internship,field studies) | |
| ***16. Admissions*** | | |
|  | | Pre-requisites |
|  | | Minimum number of students |
| 6 | | Maximum number of students |
| Instructor:  Asst. Prof. Dr. Anmar Hamed  Lecturer Dr. Aiser Muneer | | ***17. Course Instructors*** |

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