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 EngineeringUniversity of Baghdad | ***1. Teaching Institution*** |
| Mechanical Engineering Department | ***2. University Department/Centre*** |
| Introduction to aeronautical scienceThis 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-facemode. 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 gradeFinal 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 types2-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 FlightThird editionBy R H BarnardD R Philpott(2004)2-Fundamentals ofAerodynamicssecond edition John D. Anderson, Jr.(1991)3-Understanding flightBy David F. AndersonScott Eberhardt(2001)OTHERS1. 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, guestLectures , internship,field studies) |
| ***16. Admissions*** |
|  | Pre-requisites |
|  | Minimum number of students |
| 6 | Maximum number of students |
| Instructor:Asst. Prof. Dr. Anmar HamedLecturer Dr. Aiser Muneer | ***17. Course Instructors*** |

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