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

University: 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  (MED) | ***2. University Department/Centre*** |
| **Manufacturing Processes and StatisticsME306**  This course introduces the description of manufacturing processes principles .Topics covered :first course  Introduction to manufacturing processes ,machining, casting , welding , powder metallurgy , metal forming . second course statistics : frequency distribution , measures of central tendency , standard deviation , moments, skewness, , kurtosis , probability theory, binomial, normal and poisson distribution , sampling theory .The course is designed to provide a background to higher level of manufacturing processes and engineering statistics. The course is Taught through 5 hours a week 3theory , 3 experimental . | ***3. Course title/code& Description*** |
| Mechanical Engineering (ME) | ***4. Programme(s) to which itContributes*** |
| Annual System :There is only one mode delivery ,which is a "Day Program " The students are full time students , and on campus . they attend full day program in face to face mode . the academic year is composed of 30 week regular subjects . | ***5. Modes of Attendance offered*** |
| 1st & 2 nd / Academic Year 2017-2018 | ***6. Semester/Year*** |
| 150 hours / 5hrs. per week(for manufacturing processes )  30 hrs. / 1 hrs. per week (for statistics) | ***7. Number of hours tuition (total)*** |
| April -3/2018 | ***8. Date of production/revision of this specification*** |
| ***9. Aims of the Course*** | |
| 1- Understand modern manufacturing operations, including their capabilities, limitations,and how to design for lowest cost.  2- Learn how to analyze products and be able to improve their manufacturability and lower costs.  3- Understand the relationship between customer desires, functional requirements,  product materials, product design, and manufacturing process selection.  4- Be able to examine a product and determine how it was manufactured and why.  5- Be able to explain the importance of human-factors in manufacturing and assembly,and how it relates to design.  6- Understand the advantages and disadvantages of hard (inflexible) and soft (flexible).  7- understand the principles of statistics for different application . | |

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| ***10·Learning Outcomes*** |
| 1. To gain an understanding and appreciation of the breadth and depth of the field of manufacturing  2. To recognize the strong interrelationships between material properties and manufacturing processes  3. To become familiar with some of the basic metal cutting, forming, welding, casting, and polymer processes  4. To learn and apply the basic terminology associated with these fields  5.To increase your knowledge and broaden your perspective of the manufacturing world in which many of you will contribute  your talents and leadership  6. Increase awareness of sustainability in manufacturing |
| ***11.Teaching and Learning Methods*** |
| 1. Lectures . 2. Tutorials . 3. Homework and assignments 4. Lab. Experiments . 5. Tests and Exams . 6. In class Questions and discussions . 7. Connection between Theory and Application 8. Extracurricular activities. 9. Seminars . 10. In – And Out – Class oral conversations . 11. Reports , presentations , and posters . |
| ***12. Assessment Methods***  1- Examinations , tests , and Quizzes .  2- Extracurricular Activities .  3- Student Engagement during Lectures .  4- Responses obtained from student s Questionnaire about curriculum and faculty Member (Instructor) . |
| ***13. Grading Policy***  ***Manufacturing Processes:***   1. Quizzes :  * There will be a (10- 12 ) closed books and notes Quizzes during the academic year . * The quizzes will count 12 % of the total course grade for manufacturing processes and 8% for Statistics . * Comprehensive exam in mid-year will count 5% of the total course grade .  1. The final exam will be comprehensive , closed books and will take place in June 2018 from 9:00AM – 12:00 PM .   The final exam will count 60 % of the total course grade 40 % for manufacturing and 20% for Statistics   1. 20 % of the total course grade in experimental practice in laboratory. |

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| ***14. Course StructureManufacturing processes and Statistics*** | | | | | |
| Assessment method | Teaching  Method | Topic title | Los Article 10) | hours | Week |
| 1-4 of article (12) | 1-11 of article (11) | **Introduction to manufacturing processes** | 1-9 | 5  3 the.  3 exp. | 1 |
| 1-4 of article (12) | 1-11 of article (11) | **Machining** | 1-9 | 5  3 the.  3 exp. | 2 |
| 1-4 of article (12) | 1-11 of article (11) | **Machining** | 1-9 | 5  3 the.  3 exp. | 3 |
| 1-4 of article (12) | 1-11 of article (11) | **Machining** | 1-9 | 5  3 the.  3 exp. | 4 |
| 1-4 of article (12) | 1-11 of article (11) | Applications and examples | 1-9 | 5  3 the.  3 exp. | 5 |
| 1-4 of article (12) | 1-11 of article (11) | Connections | 1-9 | 5  3 the.  3 exp. | 6 |
| 1-4 of article (12) | 1-11 of article (11) | **Casting process** | 1-9 | 5  3 the.  3 exp. | 7 |
| 1-4 of article (12) | 1-11 of article (11) | **Casting process** | 1-9 | 5  3 the.  3 exp. | 8 |
| 1-4 of article (12) | 1-11 of article (11) | **Welding** | 1-9 | 5  3 the.  3 exp. | 9 |
| 1-4 of article (12) | 1-11 of article (11) | **Welding** | 1-9 | 5  3 the.  3 exp. | 10 |
| 1-4 of article (12) | 1-11 of article (11) | **Powder metallurgy** | 1-9 | 5  3 the.  3 exp. | 11 |
| 1-4 of article (12) | 1-11 of article (11) | **Powder Metallurgy** | 1-9 | 5  3 the.  3 exp. | 12 |
| 1-4 of article (12) | 1-11 of article (11) | **Hot working** | 1-9 | 5  3 the.  3 exp. | 13 |
| 1-4 of article (12) | 1-11 of article (11) | **Cold working** | 1-9 | 5  3 the.  3 exp. | 14 |
| 1-4 of article (12) | 1-11 of article (11) | **Extrusion** | 1-9 | 5  3 the.  3 exp. | 15 |
| 1-4 of article (12) | 1-11 of article (11) | **Drawing** | 1-9 | 5  3 the.  3 exp. | 16 |
| 1-4 of article (12) | 1-11 of article (11) | **Rolling** | 1-9 | 5  3 the.  3 exp. | 17 |
| 1-4 of article (12) | 1-11 of article (11) | **Forming** | 1-9 | 5  2 the.  3 exp. | 18 |
| 1-4 of article (12) | 1-11 of article (11) | **forging** | 1-9 | 5  3 the.  3 exp. | 19 |
|  | 1-11 of article (11) | **Engineering Statistic** | 1-9 | 5  3 the.  3 exp. | 20 |
| 1-4 of article (12) | 1-11 of article (11) | **Frequency Distribution** | 1-9 | 5  3 the.  3 exp. | 21 |
| 1-4 of article (12) | 1-11 of article (11) | **Measures of central tendency** | 1-9 | 5  3 the.  3 exp. | 22 |
| 1-4 of article (12) | 1-11 of article (11) | **Standard Deviation** | 1-9 | 5  3 the.  3 exp. | 23 |
| 1-4 of article (12) | 1-11 of article (11) | **Moments, skewness,kurtosis** | 1-9 | 5  3 the.  3 exp. | 24 |
| 1-4 of article (12) | 1-11 of article (11) | **Probability Theory** | 1-9 | 5  3 the.  3 exp. | 25 |
| 1-4 of article (12) | 1-11 of article (11) | **Binomial, Normal and poisson distribution** | 1-9 | 5  3 the.  3 exp. | 26 |
| 1-4 of article (12) | 1-11 of article (11) | Applications and examples | 1-9 | 5  3 the.  3 exp. | 27 |
| 1-4 of article (12) | 1-11 of article (11) | Methods of using tables | 1-9 | 5  3 the.  3 exp. | 28 |
| 1-4 of article (12) | 1-11 of article (11) | Sampling theory | 1-9 | 5  3 the.  3 exp. | 29 |
| 1-4 of article (12) | 1-11 of article (11) | Sampling theory | 1-9 | 5  3 the.  3 exp. | 30 |

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| ***15. Infrastructure*** | | |
| **Textbook :**  **Manufacturing Processes**  **1**-Maron L .Begeman B. H .Amstead -1968  2- booklet made by lecturer from many references for manufacturing processes .  3- booklet made by lecturer from many references for Engineering Statistic .  **Engineering materials:**  Manufacturing Processes / Mayron L. Begeman,  **References :**  **Manufacturing processes:**   1. Manufacturing Engineering and Technology ,Serope- KalpakJian 1989.   2-Fundamentals of Modern Manufacturing, Mikell P. Groover ,1996.  3-Internet , materials and manufacturing for aircraft .   1. Statistics , Schaums outline series ,Murray R Spiegel ,1961 | Required reading:  · CORE TEXTS  · COURSE MATERIALS  · OTHER | |
| 1. Laboratory experiments in the computer lab. Of the department . 2. Available websites related to the subject . 3. Soft ware available. | Special requirements (include forexample workshops, periodicals,IT software, websites) | |
| Field and scientific visits .  Extra lectures by foreign guest lecturers . | Community-based facilities  (include for example, guest  Lectures , internship,field studies) | |
| ***16. Admissions*** | | |
| ME 104 ME205 | | Pre-requisites |
| / | | Minimum number of students |
| 44 | | Maximum number of students |
| **Asst. Prof. Dr.**  Ahmed Abdulrasoul | | ***17. Course Instructors*** |

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