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| **ISHIK UNIVERSITY FACULTY OF EDUCATION Department of MATHEMATICS EDUCATION,2017-2018 Spring Course Information for** **MATH 102 CALCULUS II** |

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| --- | --- |
| **Course Name:** | CALCULUS II |
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| --- | --- | --- | --- | --- | --- | --- |
| **Code** | **Course type** | **Regular Semester** | **Theoretical** | **Practical** | **Credits** | **ECTS** |
| MATH 102 | 2 | 2 | 4 | - | 4 | 6 |

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| **Name of Lecturer(s)-Academic Title:** | Ghada Alsakkal |
| **Teaching Assistant:** | Israa Nazhat |
| **Course Language:** | English |
| **Course Type:** | Non-area Elective |
| **Office Hours** | 1:30-2:30 Sunday and Monday |
| **Contact:** | Ghada.Alsakkal@ishik.edu.iq |
| **Teacher's academic profile:** | Bsc in Mechanical Engineering/ALMustansira University/Baghdad Msc in Mechanical Engineering/ALMustansira University/Baghdad PhD in Mechanical Engineering/Salahadden University/Hawler MSc holder in construction materials Full Name: Ilham Ibrahim Muhammed Place of Birth: Sulaimani-kurdistan-Iraq Nationality: Iraqi Kurdish Permanent Address Iraq/ sulaimani / Ibrahim ahmad Tel No. Cell Phone: +964 770 223 57 99 +964 750 861 04 59 E-Mail Address: ilhamswren@yahoo.com ilhamswren@gmail.com Master degree (MSc) in structure and infrastructure engineering 2014. Asst. Lecturer Master degree in Survey and Geomatric Engineering BSc Degree in Software Engineering. MSc Degree in Software Engineering. IT Department Head. .  |
| **Course Objectives:** | The students will learn Evaluate definite and indefinite integrals using techniques integrals Apply integration techniques in finding the volume of a solid. Evaluate the first and second partial derivatives of functions of several variables. • Solve differential equations. • Find a maximum or minimum value for a function and find the graph of the function Solve simple and separable differential equations. Evaluate functional series |
| **Course Description (Course overview):** | Quadratic, Cubic, Exponential Logarithmic and Hyperbolic functions, the inverse of these functions and their graphs, Limits, Continuity and Derivatives and some Applications, the mean-Value theorem of differentiation and its applications, integration which is one of the basic subjects of calculus with definite and indefinite integral, some application of integration. |
| **COURSE CONTENT**

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Hour** |               **Date**               | **Topic** |
| **1** | 4 | 25-29/3/2018 | Introduction, l\\\'Hopital rule and graph of functions |
| **2** | 4 | 1-5/4/2018 | Integration, Rules of integration |
|  |  |  |  |
| **3** | 4 | 8-12/4/2018 | The application of indefinite integration |
| **4** | 4 | 15-19/4/2018 | Methods of integration. |
|  |  |  |  |
| **5** | 4 | 22-26/4/2018 | Integration of sines and cosines |
| **6** | 4 | 29/4-3/5/2018 | Midterm Exam |
|  |  |  |  |
| **7** | 4 | 6-10/5/2018 | Integration by the method of partial fractions |
| **8** | 4 | 13-17/5/2018 | Applications of definite integrals |
|  |  |  |  |
| **9** | 4 | 20-24/5/2018 | Area under curve, Area between two curves |
| **10** | 4 | 27-31/5/2015 | Length of curve |
|  |  |  |  |
| **11** | 4 | 3-7/6/2018 | Final Exam |
| **12** | 4 | 10-14/6/2018 | Final Exam |
|  |  |  |  |

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| **COURSE/STUDENT LEARNING OUTCOMES**

|  |  |
| --- | --- |
|  |  |
| **1** | Graph of functions and I\\\\ |
| **2** | Integrations |
| **3** | Methods of Integration |
| **4** | Applications of integration |
| **5** | Matrices |

 |
| **COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES**(Blank : no contribution, I: Introduction, P: Profecient, A: Advanced )

|  |  |  |
| --- | --- | --- |
|  | **Program Learning Outcomes** | **Cont.** |
| **1** | Demonstrate an understanding of the common body of knowledge in mathematics. | P |
| **2** | Demonstrates an understanding of pedagogical content knowledge, technology and perfectible assessment. | A |
| **3** | Demonstrate the ability to think critically, research scientifically, and become modern and up-to-date. |  |
| **4** | Understands the interrelationship of human development, cognition, and culture and their impact on learning. |  |
| **5** | Demonstrate the ability to apply analytical and theoretical skills to model and solve mathematical problems. | A |
| **6** | Demonstrate the ability to effectively use a variety of teaching technologies and techniques and classroom strategies to positively influence student learning. | P |
| **7** | Understands how to form connections among educators, families, and the larger community to promote equity and access to education for his/her students. |  |
| **8** | Understands assessment and evaluation of student performance and learning and program effectiveness. | I |
| **9** | Communicates effectively and works collaboratively within the context of a global society. |  |

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| **Prerequisites (Course Reading List and References):** | Calculus I |
| **Student's obligation (Special Requirements):** | Attendance in the class at a time 2. Perform the homework 3. Perform the classwork 4. Bring notebook to the classroom |
| **Course Book/Textbook:** | Finney,R.L.&Thomas,G.B."Calculus",11thAddison-Wesley publishing compay. |
| **Other Course Materials/References:** | 1.Calculus and analytic geometry-Fifth edition. 2.Smith, R.T.&Minton,R.B."Calculus:Single Variable",McGraw-Hill Compani |
| **Teaching Methods (Forms of Teaching):** | Lectures, Practical Sessions, Excersises, Presentation, Assignments |
| **COURSE EVALUATION CRITERIA**

|  |  |  |
| --- | --- | --- |
| **Method** | **Quantity** | **Percentage (%)** |
| Attendance | 2 | 1 |
| Participation | 5 | 1 |
| Quiz | 2 | 10 |
| Homework | 3 | 1 |
| Midterm Exam(s) | 1 | 30 |
| Final Exam | 1 | 40 |
| **Total** | **100** |
| **Examinations:**Essay Questions, Multiple Choices, Short Answers |  |  |

 |
| **Extra Notes:** |
| **ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD**

|  |  |  |  |
| --- | --- | --- | --- |
| **Activities** | **Quantity** | **Duration (Hour)** | **Total Work Load** |
| Course Duration (Including the exam week: 16x Total course hours) | 12 | 4 | 48 |
| Hours for off-the-classroom study (Pre-study, practice) | 12 | 1 | 12 |
| Assignments Mid-terms | 1 | 1 | 1 |
| Final examination | 1 | 2 | 2 |
| Other |  |  | 0 |
| **Total Workload** | **63** |
| **ECTS Credit (Total workload/25)** | **2.52** |

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**Peer review**

|  |  |  |
| --- | --- | --- |
| Signature: | Signature: | Signature: |
| Name: | Name: | Name: |
| Lecturer                                                                       | Head of Department                                                         | Dean |

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