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| **ISHIK UNIVERSITY FACULTY OF EDUCATION Department of MATHEMATICS EDUCATION,2017-2018 Spring Course Information for MATH 101 CALCULUS I** |

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| --- | --- |
| **Course Name:** | CALCULUS I |
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| --- | --- | --- | --- | --- | --- | --- |
| **Code** | **Course type** | **Regular Semester** | **Theoretical** | **Practical** | **Credits** | **ECTS** |
| MATH 101 | 2 | 1 | 4 | - | 4 | 6 |

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| **Name of Lecturer(s)-Academic Title:** | Azad Mohammed Ali - Ghada Alsakkal - MScHilal Karim - Ilham Ibrahim - MScRasha Alkabbanie - Saad Khalis - Sanhan Khasraw - Wali Ali Abdullah - |
| **Teaching Assistant:** | none |
| **Course Language:** | English |
| **Course Type:** | Non-area Elective |
| **Office Hours** | Mondays (12:00-13:30) |
| **Contact:** | Email:azad.mohammed@ishik.edu.iq ghada.alsakkal@ishik.edu.iq hilal.karim@ishik.edu.iq ilham.ibrahim@ishik.edu.iq rasha.alkabbanie@ishik.edu.iq saad.essa@ishik.edu.iq sanhan.khasraw@ishik.edu.iq wali.ali@ishik.edu.iq Tel:07504545486 0750 768 3963 07702245410 07508610459 07510360312 07504823149 xxx 7504709383  |
| **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 Bachelor/Sciences of Mathematics 1987. Master/Applied Mathematics 1999 assistant lecturer 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. I have a Master degree in Material Sciences and Engineering with average of 84% and a bachelor degree in Mechanical designing Engineering/Faculty of Mechanical Engineering- Damascus University. I worked for Two years as an assistant lecturer in Faculty of Mechanical Engineering/Damascus University, and I supervised many graduating projects , and for one year as a part-time lecturer at Ishik university/ Civil Engineering Department. Dr. Saad Essa PhD in Mathematics, 2015, University of Birmingham, United Kingdom. Master in Civil Engineering  |
| **Course Objectives:** | Provide students with mathematical principles that they will use in the technical courses of the upper levels. |
| **Course Description (Course overview):** | Preliminary topics which are studied in high school, functions and properties and its graphs, some special functions especially trigonometric functions and their graphs, basic limit applications and differentiations. |
| **COURSE CONTENT**

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Hour** |               **Date**               | **Topic** |
| **1** | 4 | 19-23/11/2017 | Real Numbers and the real line |
| **2** | 4 | 26-30/11/2017 | Lines |
|  |  |  |  |
| **3** | 4 | 3-7/12/2017 | Circles and Parabolas |
| **4** | 4 | 10-14/12/2017 | Functions and their graphs - shifting graph |
|  |  |  |  |
| **5** | 4 | 17-21/12/2017 | Trigonometric functions |
| **6** | 4 | 24-28/12/2017 | ? |
|  |  |  |  |
| **7** | 4 | 31/12/2017-4/1/2018 | Limits |
| **8** | 4 | 7-11/1/2018 | Limits Laws |
|  |  |  |  |
| **9** | 4 | 14-18/1/2018 | Limits at infinity and continuity |
| **10** | 1 | 21-25/1/2018 | Midterm Exam |
|  |  |  |  |
| **11** | 4 | 28/1-1/2/2018 | Differentiation |
| **12** | 4 | 4/2-8/2/2018 | Tangents and derivatives |
|  |  |  |  |
| **13** | 4 | 11/2-15/2/2018 | Derivatives of Trigonometric Functions |
| **14** | 4 | 18/2-22/2/2018 | The Chain Rule and Parametric Equations + Implicit Differentiation |
|  |  |  |  |
| **15** | 4 | 25/2-1/3/2018 | Transcedental Functions |
| **16** | 2 | 4-8/3/2018 | Final Exam |
|  |  |  |  |

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| **COURSE/STUDENT LEARNING OUTCOMES**

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| --- | --- |
|  |  |
| **1** | Enable students to understand different types of functions and apply transformation. |
| **2** | Enable students to graph the functions using derivation. |
| **3** | Enable students to calculate the area and the volume of the solids using integration. |
| **4** | Enable students to understand the principles of geometry measurements and Euclidean theories |
| **5** | Enable students to use math in the architecture-related designs. |

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| **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. | I |
| **3** | Demonstrate the ability to think critically, research scientifically, and become modern and up-to-date. | P |
| **4** | Understands the interrelationship of human development, cognition, and culture and their impact on learning. | I |
| **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. | I |
| **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. | I |

 |
| **Prerequisites (Course Reading List and References):** | Quick review of the Algebra and Geometry courses studied at High school. and some knowledge about the mathematical terminology. |
| **Student's obligation (Special Requirements):** | 1. Students have an obligation to arrive on time and remain in the classroom for the duration of scheduled classes and activities. 2. Students have an obligation to write, homeworks, tests and final examinations at the times scheduled by the teacher or the College. Students have an obligation to inform themselves of, and respect, College examination procedures. 3. Students have an obligation to show respectful behaviour and appropriate classroom deportment. Should a student be disruptive and/or disrespectful, the teacher has the right to exclude the disruptive student from learning activities (classes) and may refer the case to the Director of Student Services under the Student Code of Conduct. 4. Electronic/communication devices (including cell phones, mp3 players, etc.) have the effect of disturbing the teacher and other students. All these devices must be turned off and put away. Students who do not observe these rules will be asked to leave the classroom. |
| **Course Book/Textbook:** | Thoma's Claculus and stewart's Calculus are both very good refrences. |
| **Other Course Materials/References:** | Anton's Calculus is also a useful reference to follow. |
| **Teaching Methods (Forms of Teaching):** | Lectures, Excersises, Assignments |
| **COURSE EVALUATION CRITERIA**

|  |  |  |
| --- | --- | --- |
| **Method** | **Quantity** | **Percentage (%)** |
| Attendance | 1 | 5 |
| Participation | 1 | 5 |
| Quiz | 2 | 5 |
| Homework | 2 | 5 |
| Midterm Exam(s) | 1 | 30 |
| Final Exam | 1 | 40 |
| **Total** | **100** |
| **Examinations:**Essay Questions, Fill in the Blanks, 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) | 16 | 4 | 64 |
| Hours for off-the-classroom study (Pre-study, practice) | 14 | 2 | 28 |
| Assignments Mid-terms | 1 | 1 | 1 |
| Final examination | 1 | 2 | 2 |
| Other | 5 | 1 | 5 |
| **Total Workload** | **100** |
| **ECTS Credit (Total workload/25)** | **4** |

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**Peer review**

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

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