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**Department of ... Software and Informatics Engineering**

**College of … Engineering**

**Salahaddin University – Hawler**

**Subject: Mathematics II**

**Course Book –Year 1**

**Lecturer's name: Nawroz Ibrahim Hamadamen**

**Academic Year: 2018 -2019**

**Course Book**

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| **1. Course name** | **Mathematics II** |
| **2. Lecturer in charge** | **Nawroz Ibrahim** |
| **3. Department/ College** | **Software and Informatics / Engineering** |
| **4. Contact** | **Nawroz.hamadamen@su.edu.krd****Tel:+9647504838496** |
| **5. Time ( hr. / week )** | **4 per Group** |
| **6. Office hours** | **3 per Week** |
| **7. Course overview:**Continuous Mathematics-1 is a one-semester course taken by all departments of Engineering. This course aims to indicate where and how mathematical techniques are used, from the exercises and examples.* All handouts, homework assignments are ONLINE.
* It is your responsibility to download assignments.
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| **8. Course Objective:*** Understand how engineers solve problems step by step and properly.
* Be aware of the week points and the errors that they expect during the mathematical solutions before starting their program.
* Be familiar with the major rules, geometries, equations, functions, & graphs
* Understand the role of mathematics and how the development of technology has been related to the development of mathematics.
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| **9. Student's Obligation*** Regular attendance is required according to the university rules.
* The use of mobile phone during the class is prohibited.
* Only the students who are officially enrolled can attend the class, guests and children are not admitted.
* Daily participation and conducting assignments are required.
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| **10. Forms of Teaching:** The subject will be given theoretically in the class depending on the ppt. slides that have given to the students before the lecture’s day; whiteboard and pen have been mostly used and frequently clear the subject step by step. Home work is normally given throughout the academic year, and also we have (an hour to 2 Hours) **tutorial** part of the lecture that have daily activity marks on it; this defines calculating exercises and examples of different ideas on the white board. There will be Quizzes also in a pointed day.  |
| **11. Assessment Scheme:**

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| **Exam** | **Mark** |
| Mid Term | 20% |
| Course Activities | 20% |
| Final Course Exam | 60% |
| Total | 100% |

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| **12. Course Reading List:**1. Thomas Calculus 11­th edition 2005
2. Thomas Calculus by "George B.Thomas" 12­th edition 2010
3. Schaum's outlines Matrix Operations 2nd edition 1989
4. Discrete mathematics "P.K. Mittal" 1­st edition 2004
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| **26 Weeks: From the 15th of October to 15th of May** |
| **1st Week** | Integrals Involving Inverse Trigonometric Functions  |
| **2nd Week** | Integration Methods Integration by Parts |
| **3nd Week** | The Substitution t = tan(x) |
| **4rd Week**  | The Substitution $t=\tan(\frac{x}{2})$ |
| **5th Week** | Integration Applications (Volumes of Revolutions)The Disk Method |
| **6th Week** | Revolution About a Line That is Not a Coordinate Axis |
| **7th Week** | The Shell Method  |
| **8th Week** | Techniques of Integration: Partial fractions Decomposition |
| **9thWeek** | Definitions of Hyperbolic Functions |
| **10th Week** | Graphs of Hyperbolic Functions |
| **11th Week** | Differentiation of Hyperbolic Functions |
| **12th Week** | Integration of Hyperbolic Functions |
| **13th Week** | Inverse Hyperbolic Functions |
| **14th Week** | **Writing \*\*\***3.17 Real-time writing3.18 Learning new writing skills3.19 Grammar for writing |
| **15th, 16th, 17th, 18th, 19th, 20th, 21th, 22st, 23nd,**  | Polar Coordinate SystemPolar Equation of Lines and CirclesArea Enclosed by Polar Curves |
| **24rd, 25th, 26th, 27thWeeks** | Review & Skill  |