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**Department of Geomatics**

**College of Engineering**

**Salahaddin University – Hawler**

**Subject: Engineering Economy**

**Course Book –Bolonga**

**Lecturer's name: Dr.Kamaran Kakel Gardy**

**Academic Year: 2021-2022**

**Course Book**

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| **1. Course name** | | **Engineering Economy** |
| **2. Lecturer in charge** | | **Dr.Kamaran Kakel Gardy** |
| **3. Department/ College** | | **Geomatics/ Engineering** |
| **4. Contact** | | **e-mail:** kamaran.hamad@su.edu.krd  **Tel:** |
| **5. Time ( hr. / week )** | | **two** |
| **6. Office hours** | | **four** |
| **7. Course overview:** The need for the engineering economy is primarily motivated by the work that engineers do in performing analyses, synthesizing, and coming to a conclusion as they work on projects of all sizes. In other words, the engineering economy is at the heart of making decisions. These decisions involve the fundamental elements of cash ﬂows of money, time, and interest rates.  This course introduces the basic concepts and terminology necessary for an engineer to combine these three essential elements in organized, mathematically correct ways to solve problems that will lead to better decisions.  Effective project management for engineering/construction projects is essential in today's very demanding business environment. A successful project management approach requires the development of business skills and involves establishing controls and monitoring progress to ensure that the project meets the performance specification requirements and is completed on time and within budget | | |
| **8. Course Objective:**  The basic objective of this course is to be understanding of concepts, engineering economy and management and to develop proficiency with methods for making rational decisions regarding problems likely to be encountered in the professional practice of the engineer. | | |
| **9. Student's Obligation**   * Regular attendance is required according to the university rules. * The use of a 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. | | |
| **10. Forms of Teaching** Usually whiteboard and data show will be used for explaining the lectures. The lectures include details and explanations of theories, equations, and methods of solution for deferent types of problems. Also the lectures include several examples of solved problems for each subject. In classroom and during the presentation there will be focus on sharing the students in the course of explanation by raising a direct question to single student or a group of students | | |
| **11. Assessment Scheme** The first periodical examination carried out at the end of January, the second periodical examination carried out in April, and the final examination-first trial carried out at the beginning of July, while the second trial carried out in September. The students are required to exercise the classroom activities, quizzes at the end of each subject, and home works. The distribution of marks will be as follows:  ‌  **Marks per Term:**  Mid-term Exam 20%    Quizzes& Classroom Activities 20%  Final Exam 60%  Total of 100% | | |
| **12. Course Reading List:** | | |
| **30 weeks** | | |
| **1st Week** | Part I: Engineering Economy  General introduction and Background, objectives, references. | |
| **2nd Week** | The Economic Environment and Cost Concepts, Cost –Volume Relationships, Law of Supply, and Demand. | |
| **3rd Week** | Performing an Engineering Economy Study, Simple, and Compound Interest. | |
| **4th Week** | Factors: How Time and Interest Affect Money. | |
| **5th Week** | Equivalent present worth, future worth, and annual worth, examples | |
| **6th Week** | Interest Formulas Relating a Uniform Gradient of Cash. | |
| **7th Week** | Equivalent Cash-Flow series, Examples. | |
| **8thWeek** | Changing Interest Rates, Example, Nominal, and Effective Interest Rates: | |
| **9th Week** | Basic Methods for Economic Studies | |
| **10th Week** | Basic Methods for Economic Studies | |
| **11th Week** | Comparing Alternatives | |
| **12th Week** | Comparing Alternatives | |
| **13th Week** | Comparing Alternatives | |
| **14th Week** | Mid term exam | |
| **15th Week** | Final exam | |