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**Department of Mathematics**

**College of *Science***

**University of *Salahaddin-Erbil***

**Subject: Finite Mathematics**

**Course Book *(First Year/ First semester)***

**Lecturer's name: Assis. Zozan Omer Ismail**

**Academic Year *2022-2023***

**Course Book**

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| **1. Course name** | **Finite mathematics** |
| **2. Lecturer in charge** | Zozan Omer Ismail |
| **3. Department/ College** | mathematics / Science |
| **4. Contact** | E-mail(2): zozan.ismail@su.edu.krd |
| **5. Time (in hours) per week**  | 2  |
| **6. Office hours** | Theory: 3x2 discussion: 2x1 monday : (GB)8:30 -10:30 ///(GA) 10:30-12:30wednsday :8:30-9:30,9:30-10:30 |
| **7. Course code** | **SM103** |
| **8. Teacher's academic profile**  | My name is Zozan Omer Ismail. I graduated from mathematical Department / College of Education in Salahaddin University-Erbil in 1-7-1994, in Erbil, Iraq. I have got Master of Science in Fluid Mechanics. Since 2-8-2006. I am working as an assistant lecturer in mathematical department / college of science / Salahaddin University-Erbil. |
| **9. Keywords** | Summation, Complex number, polynomial. |
| **10. Course overview:**  **This course features topics that demonstrate basic mathematical ideas used to analyse and problem solve questions of individual or societal need, also this course involves modelling and solving real- words problems with system Topics include mathematical induction, polynomials and complex numbers**  |
| **11. Course objective:** **The purpose of this course is to introduce the basic terminology of some primary mathematical concepts about basic concepts of mathematics and its mathematical structures. Upon successful completion, the student will demonstrate proficiency and understanding in the following topics: Mathematical induction to solve and prove mathematical problems and statements especially those which include series. Complex numbers, properties of complex numbers, Polynomials, properties of polynomials, roots of polynomials, relationship between roots and coefficients of polynomials, greatest common divisor of two polynomials, solving equations of degree three( Cardan method) . Solving equations of degree four (Ferrari method).** |
| **12. Student's obligation:** Students and their obligations throughout the academic year, is the attendance and completion of all tests, exams, assignments.  |
| **13. Forms of teaching:** Magic board , sometimes data show ,discussion and allow leg students to write some problems on the board and assignments and I give hard copy of my lecture notes to students before coming lecturer time  |
| **14. Assessment scheme*****Theoretical:*** 40% (one Midterm exams and other activities, home works and quizzes).***Final Exam:***  ***Theoretical:*** 60% |
| **15. Student learning outcome:**The student will learn to formulate some special idea in mathematics 2. Students will learn basic conception of all the special mathematics idea.   |
| **16. Course Reading List and References:** **1. "Theory of equations", Copyright 1948 by J.V. Uspensky, McGraw-Hill book com.** **2. "Discrete Mathematics with Applications", by S. Susanna, 4th edition Cole Cengage Learning. 2011.** **3. "Complex variables and applications" , by B.James word ,churchill Ruel , eighth edition****4. “SCHAUM’S OUTLlNE OF THEORY AND PROBLEMS FINITE MATHEMATIC S”,by SEYMOUR LIPSCHUTZ.****5. طرق رياضية متنوعة, سليم حسن عبد ع 8791 لي, كاظم محمد حسن** |
| **17. The Topics:** | **Lecturer's name** |
| **1.Mathematical Induction and Binomial Theorem****1.1 summation****1.2 product notation** **1.3 Binomial theorem** **1.4 mathematical induction**  **2. Introduction to Complex Numbers**  **2.1 properties of complex numbers** **3. Polynomial**  **3.1 properties of polynomials,** **3.2 Roots of polynomials** **3.3 relationship between roots and coefficients of polynomials 3.4 greatest common divisor of two polynomials** |  |
| **18. Practical Topics (If there is any)** |  |
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| **19. Examinations:** Compositional: In this type of exam the questions usually starts with Explain how, furthermore it is like as lecture notes and contains some homework , so there will be continuing assignments of problem outside the lecture notes (note that this problem having small marks).  |
| **20. Extra notes:** |
| **21. Peer review پێداچوونه‌وه‌ی هاوه‌ڵ**  |