**Course Description Form**

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| 1. Course Name:
 |
|  Math for economists |
| 1. Course Code:
 |
|  2nd course |
| 1. Semester / Year:semesters
 |
|  Semester 2023/2024 |
| 1. Description Preparation Date:
 |
|  14/2/2024 |
| 1. Available Attendance Forms:
 |
| Attendance only |
| 1. Number of Credit Hours (Total) / Number of Units (Total)
 |
| 30 hours in semester / 2 hours weekly  |
| 1. Course administrator's name (mention all, if more than one name)
 |
| Jaafar Ghazi Abdulrazzaq email: jaafar.ghazi@uobasrah.edu.iq |
| 1. Course Objectives
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| **Course Objectives** | 1- An educational benefit by recognizing the concept of mathematics for economists and related concepts.2- Recognize the importance and types of economic applications of mathematical methods3- Mathematical methods in solving equations that are related to difference equations 4- Calculus and its economic applications |
| 1. Teaching and Learning Strategies
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| **Strategy** | By providing the student with the basics and additional topics related to the learning outcomes, assigning students to joint research, collecting information from different sources, sharing scientific material and its sources with each other, and forming open discussion circles on the studied materials . |
| 1. Course Structure
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| **Week**  | **Hours**  | **Required Learning Outcomes**  | **Unit or subject name**  | **Learning method**  | **Evaluation method**  |
| 1 | 2 | **A review of the most basic math concepts** |  |  |  |
| 2 | 2 | **The concept of differentiation** |  |  |  |
| 3 | 2 | **Rules of differentiation of algebraic, exponential and logarithmic functions** |  |  |  |
| 4 | 2 | **Types of derivatives** |  |  |  |
| 5 | 2 | **Economic applications of differential calculus** |  |  |  |
| 6 | 2 | **Solve additional external exercises on differential calculus** |  |  |  |
| 7 | 2 | **The concept of integration** |  |  |  |
| 8 | 2 | **Rules of integration** |  |  |  |
| 9 | 2 | **Types of integration** |  |  |  |
| 10 | 2 | **Economic applications of integration** |  |  |  |
| 11 | 2 | **Concept of difference equations** |  |  |  |
| 12 | 2 | **irst order difference equations and how to solve them** |  |  |  |
| 13 | 2 | **Solving external exercises and applications** |  |  |  |
| 14 | 2 | **Linear programming** |  |  |  |
| 15 | 2 | **Applications of linear programming** |  |  |  |
| 1. Course Evaluation
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| Exams: 40 Degree. , Participation:5 Degree , Attendance: 5 Degree , Total : 50 degree |
| 1. Learning and Teaching Resources
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| Required textbooks (curricular books, if any) |  |
| Main references (sources) | 1. Schaum\_introduction\_to\_mathematical \_econ.ph.d .EdwardT. Dowling .. third edition

. Fundamental Methods of Mathematical. Economics. Alpha Chung-i Chiang .phd . second edition |
|  | Phd. Adnan shamkhy . Math for economists |
| Electronic References, Websites | https://math.libretexts.org |