**Course Description Form**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Course Name: | | | | | | | | |
| Math for economists | | | | | | | | |
| 1. Course Code: | | | | | | | | |
| 1st Course | | | | | | | | |
| 1. Semester / Year: | | | | | | | | |
| 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 | | | | | | | | |
| **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 methods  3- Mathematical methods in solving equations that are related to economic models  4- Mathematical methods in solving matrices | | | | |
| 1. Teaching and Learning Strategies | | | | | | | | |
| **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 | | | | | | | | |
| **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 math for economists** | | |  |  |  |
| 3 | 2 | | **Functions - Variables - Constants - Equations** | | |  |  |  |
| 4 | 2 | | **Types of functions with graphing method** | | |  |  |  |
| 5 | 2 | | **Mathematical economic models** | | |  |  |  |
| 6 | 2 | | **Matrices** | | |  |  |  |
| 7 | 2 | | **Types of matrices** | | |  |  |  |
| 8 | 2 | | Inverse and transposed matrices | | |  |  |  |
| 9 | 2 | | Matrix determinant | | |  |  |  |
| 10 | 2 | | Solving linear equations using matrices | | |  |  |  |
| 11 | 2 | | Matrix algebra Matrix addition and subtraction | | |  |  |  |
| 12 | 2 | | Matrix multiplication and division | | |  |  |  |
| 13 | 2 | | Cramer's method for solving matrices | | |  |  |  |
| 14 | 2 | | Inverse method for solving matrices | | |  |  |  |
| 15 | 2 | | Solving external examples of matrices | | |  |  |  |
| 1. Course Evaluation | | | | | | | | |
| Exams: 40 Degree. , Participation:5 Degree , Attendance: 5 Degree ,  Total : 50 degree | | | | | | | | |
| 1. Learning and Teaching Resources | | | | | | | | |
| 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 | | | |