**Course Description Form**

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| 1. Course Name: | | | | | | | | |
| Mathematical Economics (2) | | | | | | | | |
| 1. Course Code: | | | | | | | | |
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| 1. Semester / Year: | | | | | | | | |
| the second | | | | | | | | |
| 1. Description Preparation Date: Semester 2023/2024 | | | | | | | | |
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| 1. Available Attendance Forms: | | | | | | | | |
| Attendance only | | | | | | | | |
| 1. Number of Credit Hours (Total) / Number of Units (Total) | | | | | | | | |
|  | | | | | | | | |
| 1. Course administrator's name (mention all, if more than one name) | | | | | | | | |
| Name : Ali Talib Shihab Email : [Ali.shihab@uobasrah.edu.iq](mailto:Ali.shihab@uobasrah.edu.iq) | | | | | | | | |
| 1. Course Objectives | | | | | | | | |
| **Course Objectives** | | | | 1 - Providing the student with information about the mathematical methods used in comparative consonant analysis  2- Employing derivatives in finding elasticities  3 - Employing derivatives in and finding marginal functions  4 - Employing constrained and unconstrained differentiation and optimization methods to find the maximum or minimum limits and partial elasticities of production.  5 - Employing integration methods to find producer and start-up surplus  6 - Providing the student with mathematical analysis tools for use in motor analysis | | | | |
| 1. Teaching and Learning Strategies | | | | | | | | |
| **Strategy** | | Providing the student with the basics and additional topics related to the educational outcomes, assigning students to solve assignments individually and jointly, collecting information about the course topics from various sources, exchanging the scientific material and its sources with each other through lectures and group discussion of the program topics, as well as solving examples, and encouraging external readings in the study program topics | | | | | | |
| 1. Course Structure | | | | | | | | |
| **Week** | **Hours** | | **Required Learning Outcomes** | | | **Unit or subject name** | **Learning method** | **Evaluation method** |
| 1 | 3 | | Explain what comparative static analysis | | | **The concept of Comparative static Analysis** | - lecture  - Question and answer method  - Discussion style  - Method of solving questions | - Daily preparation  - Participation in the classroom  - Class tests  - Extracurricular duties  - First exam  - A second exam  - final exam |
| 2 | 3 | | Understanding comparative static equilibrium | | | **Comparative static equilibrium** |
| 3 | 3 | | Flexibility | | | **Elasticity** |
| 4 | 3 | | Basic ideas: marginal revenue and marginal costs | | | **Marginal ideas marginal revenue, marginal cost** |
| 5 | 3 | | Marginal ideas, marginal utility, and marginal propensity to consume and save | | | **marginal ideas marginal utility, marginal propensity to consume and save** |
| 6 | 3 | | Optimum, maximum and minimum limits | | | **Optimization Maximization and Minimization** |
| 7 | 3 | | Optimization for one variable (maximizing revenue, minimizing costs, maximizing profit) | | | **Optimization for a single variable(maximize revenue , minimize cost , maximize profit )** |
| 8 | 3 | | Optimization for two variables (maximizing revenue, minimizing costs, maximizing profit) | | | **Optimization for two variables (maximize revenue , minimize cost , maximize profit )** |
| 9 | 3 | | Constrained optimization | | | **Optimized for constrained** |
| 10 | 3 | | Production function analysis | | | **Analysis Production function** |
| 11 | 3 | |  | | | **the first exam** |
| 12 | 3 | | Kinetic analysis, total functions | | | **Dynamic Analysis Total functions** |
| 13 | 3 | | Consumer surplus and producer surplus | | | **Consumer`s Surplus and Producer`s Surplus** |
| 14 | 3 | | Dynamic equilibrium, the market model (cobweb) and the national income model | | | **Dynamic equilibrium, the market model (cobweb) and the national income mode** |
| 15 | 3 | |  | | | **Second exam** |
| 1. Course Evaluation | | | | | | | | |
| Exams (20), Solving assignments (10), Comprehension score (5), Participation (10), Attendance (5)...... Final score (50) | | | | | | | | |
| 1. Learning and Teaching Resources | | | | | | | | |
| Required textbooks (curricular books, if any) | | | | |  | | | |
| Main references (sources) | | | | | **1 - Alpha C .Chiang , Fundamental method of mathematical Conmics , 1984**  **2- علي درب كسار الحيالي ، الاقتصاد الرياضي ، 2014**  **3- كريم مهدي الحسناوي , المدخل الى الاقتصاد الرياضي , 1988** | | | |
| Electronic References, Websites | | | | | **1- عدنان فرحان الجوراني , الرياضيات الاقتصادية تطبيقات و حلول , 2016**  **2 – Paul H. Daus and William M. Whyburn , introduction to mathematical analysis 1962** | | | |