

DEPARTMENT OF ECONOMICS

OLABISI ONABANJO UNIVERSITY

ECO 205: MATHEMATICS FOR ECONOMICS

Lecture Times: Tuesday, 2:00 – 4:00pm

Venue: Raji Rasheed (RR008)

Course Description

This course examines some basic issues in both microeconomics and macroeconomics at the undergraduate level. It aims at introducing students to mathematical analysis in economics. The course covers such topics as, functional relationships, continuity and limits, techniques of differentiation and its economic applications, partial differentiation techniques and its economics applications, total differentiation and its economics applications and integration.

Overall, it is expected that at the end of the course, students will be able to apply basic rules in solving all mathematical problems relating to economics in both microeconomics and macroeconomics.

Pre-Requisite

The syllabus requires your familiarity with basic arithmetics, algebra, coordinate geometry and trigonometry.

Learning Activities

The course will be taught using a combination of class lectures and practice problems. However, it is the responsibility of students to ensure that they are adequately prepared for the course by searching for relevant materials for the course. Students are expected to work independently as individuals and jointly as group. Group discussion is an essential means of learning, as it facilitates idea sharing.

Assessment

The course will be assessed using:

1. Several tests, assignments and mid-semester exam. This will account for 30 percent (30%) of the final grade
2. Final exam accounts for the remaining 70 percent of the total grade

$$x^2 - 2x + 270$$

$$(x^2 + 11x + 28) \\ x^2 + x + 28$$

Course Outline

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1. Review of basic arithmetic and algebra
2. Review of basic trigonometry and coordinate geometry
3. Functional relationships, continuity and limits: the economic application
4. Techniques of differentiations and economic applications
5. Partial differentiations techniques and economic applications
6. Total differentiation and economic applications
7. Integration and economic applications

Reference texts

- 1 E.O. George, Essential Mathematics for Economics and Business, Revised edition, Silicon Publishing Company
- 2 R.O. Somoye, Mathematical Simulations for Economics and Finance (Integrated quantitative and analysis), Rocsom Publishers
- 3 Edward T. Dowling, Introduction to Mathematical Economics, 3rd edition, McGRAW-HILL International Edition
- 4 Carl P. Simon and Lawrence Blume, Mathematics for Economists, Norton, New York: 1994 M. Hoy, J. Livenalt, C. McKenna, R. Rees, and T. Stengos, Mathematics for Economics, 2nd ed., MIT Press, 2001
- 5 Maku, O.E, Basic Mathematics for Social and Management Sciences, Jamiro Press Link.

Main Lecturer: Dr. A.O.B Sangosanya

Assisted By: Adenaike. A.S and S.B. Adegboyega

when $Q = 10$ $\begin{matrix} \swarrow & \searrow \\ 7.5 & 5 \\ - & - \\ 10 & 5 \end{matrix}$ $\begin{matrix} // \\ 5 \\ 10 \end{matrix}$