UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Vba Programming

2526-1-F5603M001-F5603M001-2

Learning objectives

The course aims at providing students a number of useful programming skills using MATLAB scientific software. Relevant topics cover some mathematical applications for economics.

Dublin descriptors are available here:
Mathematical Methods and Programming (https://elearning.unimib.it/course/view.php?id=55056)

Contents

Basic MATLAB programming

Detailed program

1. MATLAB IDE;
2. Data and variables types
3. Plotting mathematical objects
4. MATLAB Programming: loops, logical operators, scripts and functions development
5. Symbolic calculus and linear algebra with MATLAB
6. Constrained and unconstrained optimization
7. MATLAB programming for Economic modelling

Prerequisites

Basic knowledge of mathematical analysis and linear algebra. Some topics covered in this course are based on those presented in the Mathematics course.

Teaching methods

In-presence classes held in a Campus PC Lab. Lectures will entirely be face-to-face. No interactive activity is planned.

Assessment methods

A in-presence end of course exam that will be taken on a PC and held in a Campus PC Lab
This exam will evaluate correctness of the solved exercises as well as skills and knowledge acquired during the course.
Students might in addition hand brief projects that cover in more details topics the course covers.

The structure of the exam is as follows:

1. two questions whose answers are Matlab's script files that will be uploaded on the esamionline platform. Maximum grade for the first question is 11 points, maximum grade for the second one is 10 points;
2. two questions whose answers are based on commenting some Matlab's coding. Each correct answer grants a maximum of 4 points;
3. three multiple choice questions. Each correct answers grants one point.

Textbooks and Reading Materials

Slides provided by the instructor

Suggested (but non mandatory) textbooks are:
Pocci, C., Rotundo G. and De Kok, R. (2017). MATLAB for Applications in Economics and Finance. Apogeo Education, Maggioli Editore
Houcque, D. (2005). Introduction to Matlab for engineering students. Northwestern University, 1-64.
Lynch, S. (2004). Dynamical systems with applications using MATLAB. Boston: Birkhäuser

Semester

First semester

Teaching language

English

Sustainable Development Goals