Cover Sheet: Request 10473

New Course :: ECO 4401: Mathematical Economics

Info

Process	Course|New|Ugrad/Pro
Status	Pending
Submitter	Knight,David T thomas.knight@ufl.edu
Created	10/5/2015 4:52:04 PM
Updated	12/4/2015 2:31:50 PM
Description	The request is to add a new course (Mathematical Economics) to the UF Catalog. The course will satisfy the upper-division economics elective requirement for students majoring in economics. It will also provide critical preparation for undergraduate students interested in pursuing graduate studies in economics and related disciplines.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CLAS - Economics 011643001	Knight, David T		10/7/2015
Added ucc_consult_MathEcon.pdf					10/7/2015
College	Recycled	CLAS - College of Liberal Arts and Sciences	Pharies, David A	conditionally approved. 1. Under student objectives, please begin with the phrase "Students who successfully complete this course will be able to"; 2. Under Course Textbook, please provide full bibliographic information, including publisher and city	11/12/2015
No document changes					
Department	Approved	CLAS - Economics 011643001	Knight, David T		11/15/2015
No document changes					
College	Approved	CLAS - College of Liberal Arts and Sciences	Pharies, David A		12/4/2015
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			12/4/2015
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					

Step	Status	Group	User	Comment	Updated
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

Course|New for request 10473

Info

Request: New Course :: ECO 4401: Mathematical Economics
Submitter: Knight,David T thomas.knight@ufl.edu
Created: 11/15/2015 9:30:06 AM
Form version: 5

Responses

Recommended Prefix: ECO
Course Level : 4
Number : 401
Lab Code : None
Course Title: Mathematical Economics
Transcript Title: Mathematical Econ
Effective Term : Earliest Available
Effective Year: Earliest Available
Rotating Topic?: No
Amount of Credit: 4
Repeatable Credit?: No
S/U Only?: No
Contact Type : Regularly Scheduled
Degree Type: Baccalaureate
Weekly Contact Hours : 4
Category of Instruction : Advanced
Delivery Method(s): On-Campus
Course Description : Introduces fundamental mathematical tools employed in economic analysis. Covers comparative static analysis, introduces linear algebra, constrained and unconstrained optimization, and dynamic analysis using differential and difference equations. Examines applications from a wide range of subfields in economics, including consumer theory, macroeconomics, economic growth, and environmental economics.
Prerequisites : ECO 2013 & ECO 2023 & (ECO 3101 or ECO 3203) & (MAC 2023 or higher)
Co-requisites : None
Rationale and Placement in Curriculum : This advanced undergraduate economics elective introduces students to the application of advanced mathematical techniques to economics. No current elective in the UF Catalog provides similar coverage.

The topics covered in this course are especially relevant to students wishing to pursue graduate studies in economics and related disciplines.
Course Objectives : Students who successfully complete this course will be able to: 1) Demonstrate an understanding of the relationship between mathematical techniques and economic modeling, 2) Apply constrained and unconstrained optimization techniques to economic problems, and 3) Exhibit proficiency in standard computational techniques of linear algebra, differential and integral calculus, and differential equations.
Course Textbook(s) and/or Other Assigned Reading: "Fundamental Methods of Mathematical Economics, 4th Edition" by Alpha Chiang and Kevin Wainwright. McGraw-Hill Education. New York, NY.
Weekly Schedule of Topics : L1 Syllabus

L2 Equilibrium Analysis in Economics
Chiang and Wainwright, Chapter 3
Student Information Form due at the beginning of class

L3 Linear Models and Matrix Algebra

Chiang and Wainwright, Chapter 4
Problem Set I due at the beginning of class.

L4 Linear Models and Matrix Algebra
Chiang and Wainwright, Chapter 5

L5 Linear Models and Matrix Algebra
Chiang and Wainwright, Chapter 5

L6 Concept of Derivative and Rules of Differentiation
Chiang and Wainwright, Chapter 6.1-6.3
Problem Set II due at the beginning of class.

L7 Concept of Derivative and Rules of Differentiation
Chiang and Wainwright, Chapter 7

L8 Comparative Static Analysis of General-Function Models
Chiang and Wainwright, Chapter 8
Problem Set III due at the beginning of class .

L9 Comparative Static Analysis of General-Function Models
Chiang and Wainwright, Chapter 8

L10 Unconstrained Univariate Optimization
Chiang and Wainwright, Chapter 9
Problem Set IV due at the beginning of class.

L11 Unconstrained Univariate Optimization
Chiang and Wainwright, Chapter 9

L12 Exponential and Logarithmic Functions
Chiang and Wainwright, Chapter 10
Problem Set V due at the beginning of class.

Exam Review

FIRST EXAMINATION

L13 Unconstrained Multivariate Optimization
Chiang and Wainwright, Chapter 11

L14 Unconstrained Multivariate Optimization
Chiang and Wainwright, Chapter 11

L15 Multivariate Optimization with Equality Constraints
Chiang and Wainwright, Chapter 12
Problem Set VI due at the beginning of class.

L16 Multivariate Optimization with Equality Constraints
Chiang and Wainwright, Chapter 12

L17 Multivariate Optimization with Inequality Constraints
Chiang and Wainwright, Chapter 13
Problem Set VII due at the beginning of class.

L18 Multivariate Optimization with Inequality Constraints
Chiang and Wainwright, Chapter 13

L19 Economic Dynamics and Integral Calculus
Chiang and Wainwright, Chapter 14
Problem Set VIII due at the beginning of class.

L20 Economic Dynamics and Integral Calculus
Chiang and Wainwright, Chapter 14

L21 First-Order Differential Equations
Chiang and Wainwright, Chapter 15
Problem Set IX due at the beginning of class.

L22 First-Order Differential Equations
Chiang and Wainwright, Chapter 15

L23 First-Order Difference Equations
Chiang and Wainwright, Chapter 17
Problem Set X due at the beginning of class.

L24 First-Order Difference Equations
Chiang and Wainwright, Chapter 17

Exam Review

SECOND EXAMINATION

Grading Scheme : Numerical final grades will be calculated as a weighted average of the graded course assessments. The weights employed in this calculation are:

Average of 10 equally-weighted problem sets: 20%
Exam 1: 40%
Exam 2: 40%

The numerical final grade calculated above translates into a final letter grade according to the table below:

92.50-100: A
90.00-92.49:A-
87.50-89.99: B+
82.50-87.49: B
80.00-82.49: B-
77.50-79.99: C+
72.50-77.49: C
70.00-72.49: C-
67.50-69.99: D+
62.50-67.49: D
60.00-62.49: D-

0-59.99: E

All grades are rounded to the nearest hundredth point.

Grading and attendance policies are consistent with UF policies, which can be found at:

http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

http://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Instructor(s) : Thomas Knight

UF UNIVERSITY of FLORIDA

UCC: External Consultations

External Consultation Results (departments with potential overlap or interest in proposed course, if any)

Department	Name and Title
Mathematics	Dr. Douglas Cenzer, Professor and Chair
Phone Number	**E-mail**
352-294-2355	cenzer@ufl.edu

Comments

The Department of Mathematics supports the addition of this course into the ECO curriculum.

Department	Name and Title
Phone Number	**E-mail**

Comments

Department	Name and Title
Phone Number	**E-mail**

Comments