NEW COURSE PROPOSAL

PROGRAM:

1. Catalog Description of the Course. *[Include the course prefix, number, full title, and units. Provide a course narrative including prerequisites and corequisites. If any of the following apply, include in the description: Repeatability (May be repeated to a maximum of ___ units); time distribution (Lecture ___ hours, laboratory ___ hours); non-traditional grading system (Graded CR/NC, ABC/NC). Follow accepted catalog format.]*

> **ECON 486. INTRODUCTION TO ECONOMETRICS (3)**
> Three hours lecture per week.
> Prerequisite: ECON 310 or 329, 311; MATH 340.
> Application of mathematical and statistical methods to economic data. Estimation of economic relationships using regression analysis, hypothesis testing, and forecasting.

2. Mode of Instruction.

	Units	Hours per Unit	Benchmark Enrollment
Lecture	3	1	25
Seminar			
Laboratory			
Activity			

3. Justification and Learning Objectives for the Course. (Indicate whether required or elective, and whether it meets University Writing, and/or Language requirements) *[Use as much space as necessary]*

> Introduction to Econometrics focuses on the use of mathematical models in economic analysis and their translation into statistical relationships. Probability theory and statistics are employed to derive consistent and unbiased estimates of those relations. This course provides the foundation for empirical analysis in a variety of fields including economics, business and environmental science. Introduction to Econometrics is an upper division elective for students pursuing a Minor in Economics or the Business Economics Emphasis within the Business Major.
>
> Students who successfully complete this course will be able to:
> - Formulate basic mathematical models to represent economic activity.
> - Determine the statistical properties of data utilizing measures of central tendency, dispersion and covariance.
> - Assess the properties of statistical estimators.
> - Perform multiple linear regression analyses.
> - Identify and correct statistical models for multicollinearity, heteroskedasticity and autocorrelation.
> - Employ simultaneous equation methods to estimate statistical relationships.
> - Generate forecasts of economic variables using econometric techniques.

4. Is this a General Education Course   YES   ⬭NO⬭

If Yes, indicate GE category:

A (English Language, Communication, Critical Thinking)	
B (Mathematics & Sciences)	
C (Fine Arts, Literature, Languages & Cultures)	
D (Social Perspectives)	
E (Human Psychological and Physiological Perspectives)	

5. **Course Content in Outline Form.** *[Be as brief as possible, but use as much space as necessary]*

    Introductory Concepts
        Scope and methodology
        Elements of economic models
    Properties of Random Variables
        Expected Value
        Variance and Covariance
        Statistical Independence
    Properties of Estimators
        Best Estimators
        Linear Estimators
        Unbiased Estimators
    Regression Analysis
        Linear Regression
        Multiple Regression
    Sources of Bias and Error
        Multicollinearity
        Heteroskedasticity
        Autocorrelation
    Simultaneous Equation Models
        Identification
        Two-Stage Least Squares
        Instrumental Variables
    Forecasting
        In-Sample
        Out-of-Sample
    Other Topics

6. **References.** *[Provide 3 - 5 references on which this course is based and/or support it.]*

    Greene, William H. *Econometric Analysis 5th Ed*. Prentice Hall. 2002.
    Gujarati, Damodar. *Basic Econometrics 4th Edition*. McGraw-Hill. 2003.
    Stock, James and Mark Watson. *Introduction to Econometrics*. Addison Wesley. 2002.
    Wooldridge, J.M. *Introductory Econometrics: A Modern Approach*. South-Western College Publishing. 2001.

7. **List Faculty Qualified to Teach This Course.**

    Dr. Dennis Muraoka
    Dr. Paul Rivera
    Dr. Ashish Vaidya
    Business Faculty

8. **Frequency.**
    a. Projected semesters to be offered: Fall __x___   Spring __x___   Summer _____

9. **New Resources Required.**
    NONE

10. Consultation.

Attach consultation sheet from all program areas, Library, and others (if necessary)

11. If this new course will alter any degree, credential, certificate, or minor in your program, attach a program modification.

_____

Proposer of Course   Date